0004 M/049/0052
cc: Lynn
Tom
Wayne

Task 3279

NIELSON CONSTRUCTION

GENERAL CONTRACTORS

P.O. Box 620 • 825 North Loop Road • Huntington, Ut. 84528
(435) 687-2494 • Fax: (435) 687-9721

Emma Park Limestone pit

Notice of intent to Commence Large Mining Operation

Submitted by:

Nielson Construction
P.O. Box 620
Huntington Utah 84528

To:

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114-5801

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DEC 07 2009
DIV. OF OIL, GAS & MINING

0004

Nielson Construction Herby proposes changing our small mine permit for our Limestone Pit, Permit Number S/049/0052 to A Large Mining Operation.

Some Information is still being or will be collected for the full NOI. Utah State University has not yet completed the Soil Sampling. What data they have so far is attached in Exhibit 5, but a revised Exhibit 5 will be submitted when received, probably around December 11, 2009.

I have requested general soils information from NRCS and that also has not arrived. I have included copies of information from the Woolsey pit. I don't expect this pit to be significantly different but I will forward any information I receive from NRCS.

We are also expecting the threatened and endangered species and wetlands studies from botanist Ronald Kass to arrive in the next few days. At present I have included information from the nearby Woolsey pit. Mr. Kass will also be performing a vegetation study of the area. As per discussions with Lynn Kunzler of DOGM this study will be postponed till next summer to get more accurate information.

1. **Mine Name**: EMMA PARK PIT

2. Legal name of entity (or individual) for whom the permit is being requested:
NIELSON CONSTRUCTION
Mailing Address: PO BOX 620
City, State, Zip: HUNTINGTON UT
Phone: 435-687-2494 Fax:435-687-9721
E-mail Address: waynemc@nielsonconstruction.com

Type of Business: Corporation (X) LLC ( ) Sole Proprietorship (dba) ( )
Partnership ( ) General_____ or _____limited
Or:
Individual ( )

Entity must be registered (and maintain registration) with the State of Utah, Division of Corporations (DOC) www.commerce.utah.gov.
Are you currently registered to do business in the State of Utah? G Yes G No
Entity # 793293-0142
If no, contact www.commerce.utah.gov to renew or apply.
Local Business License # 2007 -142 (if required)
Issued by: County UTAH COUNTY or City _____

Registered Utah Agent (as identified with the Utah Department of Commerce) *(if individual leave blank)*:
Name: Wayne L. Nielson Title Corp. President
Address: P.O. Box 620
City, State, Zip: Huntington Utah 84528
Phone: (435)687-2494 Fax: (435)687-9721
E-mail Address: waynen@nielsonconstruction.com

3. **Permanent Address**: Nielson Construction

825 North Loop Road
Huntington UT 84528
Phone: (435)687-2494 Fax: (435) 687-5346

4. **Contact Person(s)** *Please provide as many contacts as necessary.*
Name: Wayne McCandless Title: Environmental Safety .
Address: PO BOX 620
City, State, Zip: Huntington, UT, 84528
Phone: (435)687-2494 Fax: (435)687-9721
Emergency, Weekend, or Holiday Phone: (435)749-0858
E-mail Address: waynemc@nielsonconstruction.com
Contact person to be notified for: permitting (X) Surety (X) Notices (X) (please check all that apply)

4. **Contact Person(s)** *Please provide as many contacts as necessary.*
Name: James Davis Title: Safety Manager.
Address: PO BOX 620
City, State, Zip: Huntington, UT, 84528
Phone: (435)687-2494 Fax: (435)687-9721
Emergency, Weekend, or Holiday Phone: _____
E-mail Address: jamesdavis@nielsonconstruction.com
Contact person to be notified for: permitting (X) Surety (X) Notices (X) (please check all that apply)

5. **Location of Operation**:
County(ies) UTAH
E 1/2 of SE 1/4, Section: 32 Township: 11S Range: 9E
_____1/4 of _____ 1/4, Section: _____ Township: _____ Range: _____
_____1/4 of _____ 1/4, Section: _____ Township: _____ Range: _____

The names of the surface and mineral owners for any areas which are to be impacted by mining must be provided to the Division. This list should include all private, state and federal ownership and the owners of lands immediately adjacent to the project areas.

6. **Ownership of the land surface** (circle all that apply):
Private (Fee), Public Domain (BLM), National Forest (USFS), State of Utah (SITLA) or other:

Name: JAMES T JENSEN Address: SAVAGE SERVICE CORPERATION
C/O JAMES T. JENSEN EXEC. V.P.
6340 SOUTH 3000 EAST #600
SALT LAKE CITY, UT 84121

Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

7. **Owner(s) of record of the minerals to be mined** (circle all that apply):
Private (Fee), Public Domain (BLM), National Forest (USFS), State of Utah (SITLA) or other:

Name: SITLA Address: 675 EAST 500 SOUTH, SUITE 500 SALT LAKE
UTAH 84102-2818

Name: _____ Address: _____
Name: _____ Address: _____
Name: _____ Address: _____

8. **BLM Lease or Project File Number(s) and/or USFS Assigned Project Number(s):**_____
_____

BLM Claim Numbers: _____

Utah State Lease Number(s): **ML 49955** _____

Name of Lessee(s): **NIELSON CONSTRUCTION CO. AND CASTLE ROCK MANUFACTURING LLC**

Adjacent land owners:

Name: JAMES T JENSEN Address: SAVAGE SERVICE CORPERATION
C/O JAMES T. JENSEN EXEC. V.P.
6340 SOUTH 3000 EAST #600
SALT LAKE CITY, UT 84121

Name: U.S GOV. BLM Address: PO BOX 45155 SALT LAKE CITY UTAH 84145-0155

Name: _____ Address: _____
Name: _____ Address: _____

10. **Have the land, mineral and adjacent land owners been notified in writing?**
Yes X No _____

If no, why not? The mineral rights belong to Utah Trustlands. The Surface owner is James T Jensen for the area of the pit and most of the area around the pit. One side of the gravel lease area borders B.L.M. Ground.

11. **Does the Permittee / Operator have legal right to enter and conduct mining operations on the land covered by this notice?** Yes X No _____.

II. **Rule R647-4-105 - Maps, Drawings & Photographs**

105.1 - Base Map

A complete and correct topographic base map (or maps) with appropriate contour intervals must be submitted with this notice showing all of the items on the following checklist. The scale should be approximately 1 inch = 2,000 feet (preferably a USGS 7.5 minute series or equivalent topographic map where available). The map(s) must show the location of lands to be affected in sufficient detail to allow measurement of the proposed area of surface disturbance.

Base Map Checklist

Please check off each section to verify these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check			Map ID
____	(a)	Property boundaries of surface ownership of all lands which are to be affected by the mining operations;	Exhibit 1
____	(b)	Perennial, intermittent, or ephemeral streams, springs and other bodies of water; roads, buildings, landing strips, electrical transmission lines, water wells, oil and gas pipelines, existing wells or boreholes, or other existing surface or subsurface facilities within 500 feet of the proposed mining operations;	Exhibit 1
____	(c)	Proposed route of access to the mining operations from nearest publicly maintained highway (Map scale appropriate to show access);	Exhibit 1
____	(d)	Known areas which have been previously impacted by mining or exploration activities within the proposed land affected;	Exhibit 2
____	(e)	Areas proposed to be disturbed or reclaimed over the life of the project or other suitable time period.	Exhibit 2

105.2 - Surface Facilities Map

Surface Facilities Map Checklist

Surface facilities maps should be provided at a scale of not less than 1" = 500'.

Please check off each section to verify these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check			Map ID
____	(a)	Proposed surface facilities, including but not limited to: buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures, and the location of topsoil storage areas, overburden/waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, and wastewater discharge treatment and containment facilities;	Exhibit 3
____	(b)	A border clearly outlining the extent of the surface area proposed to be affected by mining operations, and the number of acres proposed to be affected;	Exhibit 3
____	(c)	The location of known test borings, pits, or core holes.	None

105.3 - Additional Maps

Reclamation Treatments Map Checklist

Please check off each section to verity these features are included on the map(s) or explain why it is not applicable. Please add the map identification name or number which shows these features.

Check Map ID

____ (a) Areas of the site to receive various reclamation treatments shaded, cross hatched or color coded to identify which reclamation treatments will be applied. Areas would include: buildings, stationary mining/processing equipment, roads, utilities, proposed drainage improvements or reconstruction, and sediment control structures, topsoil storage areas, waste dumps, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes, ponds, and wastewater discharge, treatment and containment facilities. Reclamation treatments may include ripping, regrading, replacing soil, fertilizing, mulching, broadcast seeding, drill seeding, and hydroseeding: Exhibit 4

____ (b) A border clearly outlining the extent of the area to be reclaimed after mining, the number of acres disturbed, and the number of acres proposed for reclamation: Exhibit 4

____ (c) Areas disturbed by this operation which are included in a request for a variance from the reclamation standards: None

____ (d) Highwalls which are proposed to remain steeper than 45 degrees and slopes which are proposed to remain steeper than 3 horizontal : 1 vertical. None

Note: Areas included in sections c & d will need to be referenced in the variance request section. Please shade or color code these areas on this map.

Additional maps and cross sections may be required in accordance with Rule R647-4-105.3. Design drawings and typical cross-sections for each tailings pond, sediment pond, or other major drainage control structures must also be included.

III. **Rule R647-4-106 - Operation Plan**

106.1 - Mineral(s) to be mined:Lime Stone aggregate for construction materials including concrete and asphalt

106.2 - Type of Operation Conducted:

Describe the typical methods and procedures to be used in mining operations, on-site processing and concurrent reclamation. Include equipment descriptions where appropriate.

Nielson Construction Will remove limestone rock from the active mine area by drilling, blasting, and dozing methods.

Rock is removed by drilling and blasting to release a "lift" of rock. Extraction of this loosened rock occurs by sequentially working downward through the exposed rock. The maximum depth of the limestone is 7' so it will be mined in one complete lift. Rock is removed from the working face or feed zone with a loader and, transported directly to the processing area where the rock is separated and adjusted to specific sizes for processing at one facility. The facility is a crushing and sizing operation. The Quantity of material crushed per year will very from 5,000, to 30,000 cubic yards depending on the demand for the product. The life of the pit may vary based on demand.

Crushing Operation

Once the rock is removed form the working face the material is brought to the "jaw Crusher" by a front-end-loader where it is broken then it goes over screens to size the material.

Concurrent Reclamation

Concurrent Reclamation will be done on the pit as we proceed. Once 5 – 10 Acres have been depleted that area will be reclaimed. This area need to commence reclamation does not including roads, stockpiles and a reasonable operating area for the crushers (5 – 7) acres.

106.3 - Estimated Acreage

Acreage listed here should match areas measured off the maps provided.

Areas of actual mining:	25 ACRE
Overburden/waste dumps:	
Ore and product stockpiles:	4 ACRE
Access/haul roads:	1 ACRE
Associated on-site processing facilities:	2 ACRE
Tailings disposal:	
Other - Please describe:	
Total Acreage	32 ACRE

106.4 - Nature of material including waste rock/overburden and estimated tonnage

Describe the typical annual amount of the ore and waste rock/overburden to be generated, in cubic yards. Where does the waste material originate? What is the nature of the overburden/wastes (general chemistry/mineralogy and description of geologic origin)? Will it be in the form of fines or coarse material? What are the typical particle size and size fractions of the waste rock?

Estimate of tonnage, overburden,

Thickness of overburden: 0 - 2 ft.
Thickness of mineral deposit: 5 ft.
Estimated annual volume of overburden: 10,000 cu. yds.
Estimated annual volume of tailings/reject materials: 0 cu. yds.
Estimated annual volume of ore mined: 32,000 cu. yds.
Overburden/waste description: Top soil and other fines screened from the rock prior to crushing. The majority of this material will be placed back on the quarry floor. The ground will be contoured when we begin reclamation.

106.5 - Existing soil types, location of plant growth material

Specific information on existing soils to be disturbed by mining will be required. General soils information may not be sufficient.

Provide specific descriptions of the existing soil resources found in the area. Soil types should be identified along with depth and extent, especially those to be directly impacted by mining.

Soils - The plan shall include an Order 3 Soil Survey (or similar) and map. This information is needed to determine which soils are suitable for stockpiling for revegetation. This soil data may be available from the local Natural Resources Conservation Service office, or if on public lands, from the land management agency. The map needs to be of such scale that soil types can be accurately determined on the ground (see Attachment I).

(a) Each soil type to be disturbed needs to be field analyzed for the following:

Depth of soil material 0-10 inches
Volume (for stockpiling) 5,000 cu. yds.

Topsoil is thin and spread through out the pit and mixed with limestone. Where ever possible topsoil will be stockpiled. In most areas the topsoil will be screened out of the limestone and will be returned to the pit floor prior to crushing rather than stored in stockpiles.

Texture (field determination Loam
pH (field determination) 7.13
(cross reference with item 106.6)

See (Exhibit 5) from Utah State University

(b) Where there are problem soil areas (as determined from the field examination) laboratory analysis may be necessary. Soil samples to be sent to the laboratory for analysis need to be about one quart in size, properly labeled, and in plastic bags. Each of the soil horizons on some sites may need to be sampled. Soil sample locations need to be shown on the soils map. Soil analysis for these samples should include: texture, pH, Ec (conductivity), CEC

(Catoin Exchange Capacity), SAR, % Organic Matter, Total N, Available Phosphorus (as $P_2 0_5$), Potassium (as $K_2 0$), and acid/base potential.

106.6 - Plan for protecting and redepositing existing soils

Thickness of soil material to be salvaged and stockpiled: 0 - 10 inches
Area from which soil material can be salvaged: (show on map) 24 acres
Volume of soil to be stockpiled: 5,000 cu. yds.
(cross reference with item 106.5 (a))

The amount of stockpiled top soil is difficult to determine. Most topsoil is intermingled with the lime stone and will be screened back on the quarry floor. However where reasonable we will establish stock soil piles.

Describe how topsoil or subsoil material will be removed, stockpiled and protected.

Where topsoil can reasonably be separated it will be stockpiled. Much of the Limestone seam is on the surface, with some top soil mixed in with the limestone. Soil mixed with limestone is screened out prior to the crusher and returned to the quarry floor for reclamation. Any areas where there is a significant quantity of topsoil above the limestone will be pushed up by dozers or loaders and stockpiled.

106.7 - Existing vegetative communities to establish revegetation success

Vegetation - The Permittee / Operator is required to return the land to a useful condition and reestablish at least 70 percent of the premining vegetation ground cover.

Provide the Division with a description of the plant communities growing onsite and the percent vegetation cover for each plant community located on the site. Describe the methodology used to obtain these values.

The percent ground cover is determined by sampling the vegetation type(s) on the areas to be mined (see Attachment I for suggested sampling methods).

(a) Vegetation Survey - The following information needs to be completed based upon the vegetation survey:

Sampling method used _____
Number of plots or transects (10 minimum) _____

Ground Cover	Percent
Vegetation (perennial grass, forb and shrub cover)	
Litter	
Rock/rock fragments	
Bare ground	
	100%

Revegetation Requirement
(70 percent of above vegetation figure) _____%

Indicate the vegetation community(ies) found at the site.

List the predominant perennial species of vegetation growing in each vegetation community type.

This N.O.I is being put together in late fall which precludes an accurate study of vegetation in the area. However, we have been in contact with a Botanist, Ronald J. Kass who has committed to perform the study for us this coming summer.

For now we submit the following information from a study done at the nearby Woolsey pit which has similar vegetative matter:

According to NRCS range data for the South Eastern Utah County (NRCS2008) which includes the Study Area , vegetation production on the mine acreage ranges from 1700 lb/acre in a favorable year to 550 lbs/acre in an unfavorable year. The designated ecological site name is Mountain Loam.

Potential Plant species for the South Easter Utah County area, based on NRCS data, are shown in table below

Common Name	Scientific Name
Blue Bunch Wheatgrass	Pseudoroegneria spicata ssp. spicata
Mountain big Sagebrush	Artemisia tridentate vaseyana
Big Sagebrush	Artemisia tridentate tridentate
Blue Wildrye	Elymus glaucus
Phlox	Linanthus grandiflorus
Prarie junegrass	koleria cristata
Rabbitbrush	Chrysothamnus viscidifiorus
Utah Service Berry	Amelanchier utahensis
Snowberry	Symphorcrpos Albus
Wester Wheat Grass	Pascopyrum smithii
Saline Wildrye	Leymus cinereus
Bitterbrush	Pershia Tridentata

Plant Species observed by Botanist Ron Kass at nearby mine site

Common Name	Scientific Name	Form	% Percent Cover
Big Sagebrush	Artemisia tridentate	Shurb	27
Snakeweed	Xanthrocephalum sarothrae	Shrub	10
Shadscale	Atriplex confertifolia	Shrub	3
Needle and thread	stipa comata	Grass	3
Purple threeawn	Arisitida purpureus	Grass	2
Cheatgrass	Bromus tectorum	Shrub	1
Sulfur buckwheat	Erigonum umbellatum		1
pussy toes	Antennaria microphylla	Forb	0.75
Total Vegetative Cover			47

(b) Photographs - The Permittee / Operator may submit photographs (prints) of the site to show existing vegetation conditions. These photographs should show the general appearance and condition of the area to be affected and may be utilized for comparison upon reclamation of the site. Photographs should be clearly marked as to the location, orientation and the date they were taken.

I have included Photographs taken at the site on November 11, 2009 going showing the area North, South, East, and West of the pit (Exhibit 6, 7, 8, 9).

106.8 - Depth to groundwater, overburden material & geologic setting

The Nearest well identified is price city municipal S2155 E1400 NW ¼ sec 11&9 (Exhibit 10)

Describe the approximate depth to groundwater in the vicinity of the operation based on the completion of any monitoring or water wells in the area. Please show the location of these wells on the base map.

Ground water at the nearest well is listed as 100 to 2000 ft. (Exhibit 11) We would estimate that Ground water at the pit would be at least 100 ft. This pit is located on the back side of a hill with the other side going down to the Price River. We would estimate that the likely minimum depth of ground water would be at the elevation of the price river which would be around 160 feet below the pit surface. No ground water has been encountered in previous operations at the pit.

Provide a narrative description of the geology of the area and/or a geologic cross section.

The Geology underlying the alluvial sand and gravel formation is made up of Mississippian Lodgepole Limestone and Devonian Hyrum Dolomite. As shown in Figure 9, palocene surficial alluvium and colluviums, formed from alluvial outwash from the Uinta Mountains is exposed along the perimeter of the plateau area of the mine and in some places on top of the plateau. These deposits outcrop all along the Price River where the river has worn its path down through the geologic layers. The primary layer of limestone varies from about 10 to 25 feet thick.

106.9 - Location and size of ore and waste stockpiles, tailings and treatment ponds, and discharges

Describe the location and size of any proposed waste/overburden dumps, stockpiles, tailings facilities and water storage or treatment ponds.

Describe how overburden material will be removed and stockpiled.

Raw materials consist of limestone rock that has been blasted and removed from the hillside. all rock material removed from the mine area is used to create aggregate products according to customer specifications. No waste rock is generated. There is a top soil stock pile on the North West side of the pit that is both used as stockpile and also to level the area where the crushing process began.

Material Stockpiles

There are several stockpiles of sorted and sized rock products stored on site. Material is sided to 2" – 4", 2" – 3", ½" - 3/16", 3/16 to minus.

Describe how tailings, waste rock, rejected materials, etc. will be disposed of.

This process will not produce tailings and all rock and crusher fines (or reject) are expected to be used. Soil screened out from the limestone will be placed back on the quarry floor for reclamation.

Describe the acreage and capacity of waste dumps, tailings ponds and water storage ponds to be constructed. All impoundments must include the necessary hydrologic calculations to determine if they are adequately sized to handle storm events.

Two berms will be constructed around the lower north sides of the pit with the road coming up the center between them. Wings from the berms will curve uphill along the road. The road will be raised so that water will flow into the berms to soak into the ground or evaporate. Outside the pit the road will be sloped to the east and a ditch will be constructed with a rock check dams in the ditch to catch any sediment coming off the road and to be an extra safe guard to catch sediment should the berms overflow.

Describe any proposed effluent discharge points (UPDES) and show their location on the surface facilities map. Give the proposed discharge rate and expected water quality. Attach chemical analyses of such discharge if available.

The only water to go over the site will be sheet flow coming into the pit from above along with any rain or snow that accumulates in the pit itself.

Berms will be constructed to hold the water on the quarry floor to evaporate or soak into the ground. The maximum water from a 100 year storm would be 1.37 acre feet, but normal runoff would be considerably less, Average Annual Precipitation for this area is 15.1" to 20" (see Exhibit 12).

V. Rule R647-108 - Hole Plugging Requirements

All drill holes which will not eventually be consumed by mining must be plugged according to the methods listed in this section. Describe the location of any aquifers encountered by drilling and the method to be used to plug such water containing holes. Describe the method to be used for plugging holes not containing water.

Nielson Construction will not be drilling exploration holes. The only holes we will drill will be for blasting and will not be left after blasting and processing.

VI. Rule R647-109 - Impact Statement

109.1 - Surface and groundwater systems

Describe impacts to surface or groundwater which could be caused by this mining operation. Describe how these impacts will be monitored and mitigated. The appropriate groundwater and stormwater control permits need to be obtained from the Division of Water Quality. Please reference any such permits.

Any precipitation and/or run-off into the quarry from sheet flow, which enters the quarry from the hillside above, will flow over the quarry as sheet flow. The berm at the lower end of the of the pit will collect water remaining after running over the quarry floor. Much of the pit floor is flat and will catch much of this sheet flow water. Two berms on the North side of the pit will be constructed to retain water that flows over the pit and prevent it from leaving the pit.

The road into the pit will be sloped slightly to the east with a ditch running along the side. A check dam will be placed in the ditch to catch any silt coming from the road and to act as an additional protection should the berms on the pits overflow.

A generalized run-off calculation was developed for the active mine, and is summarized below.

Precipitation = .875 inches
Design Event = 100-year, 24-hour (NOAA Atlas 14)
Runoff Coefficient = .75 Mountain Terrain
Drainage Area = 25 acres
Total Volume = 1.37 Acre Feet

... If erosion or sedimentation is observed on lands where turn-outs are located, Nielson Construction commits to using appropriate water and erosion control measures. This includes, but is not limited to: properly installed filter fencing, straw bale check dams, coir log berms, dirt berms, small (<.1 acre-foot) sediment retention sumps, and rock check dams.

Ground Water

The elevation of ground water is estimated to be at about 7020 ft. or about the elevation of the Price River. The quarry floor elevation will be about 7200 in elevation so there is about 180 feet of vertical separation between quarrying activities and the ground water aquifers as shown. No ground water has been encountered during current exploration activities.

The major activities on the mine property that could impact groundwater if residues were to reach this resource are: 1) blasting (will occur 2 times per year); 2) presence of diesel fuel, lubricants, etc. used in the heavy equipment used at the mine, 3) human wastes, which are processed through chemical toilets, which are serviced regularly. In summary:

Good Housekeeping practices and careful operating procedures are used to minimize fuel and lubricant spills. Fuel and lubricants are not stored at the pit. Machinery is fueled by service trucks that will also remove any used oil.

Crushing equipment and vehicles are regularly maintained to prevent lubricant leaks and other malfunctions.

The quantities of blasting materials used create negligible quantities of nitrates that, in the unlikely event that they reached the groundwater would be well below water quality limits.

109.2 - Wildlife habitat and endangered species

Describe the impacts on wildlife habitat associated with this operation. Describe any impacts to big game species found in the area. Describe any impacts to riparian areas. Describe any impacts this operation will have on waterfowl (fly-over, temporary resident or permanent resident). List any threatened or endangered wildlife species found in the area. Describe impacts to threatened or endangered species and their habitats. Describe measures to be taken to minimize or mitigate any impacts to wildlife or endangered species.

The permit area ranges form approximately 7180 to 7250 in elevation ...
The quarry is being excavated into a foothills outcropping of the Reservation Ridge along the south slope of the Uintah Mountains.

Maps in the Utah Conservation Database (UCD), located at http://dwrcdc.nr.utah.gov/ucdc/ indicate the permit area contains year-long habitat for mule deer, prong horn, elk, and moose.

The UCD website lists seven Threatened or Endangered T&E) species that are present in Utah County and 35 Species of Special Concern (SPC) that could be found within the boundaries of the Colton area, including the Emma Park Quarry. The T&E species are listed below, none of the SPC species listed are found with the permit area

Utah County Federal Threatened and Endangered Species:

Scientific Name	Common Name	Status	Habitat Present at Emma Park Pit
Spiranthes diluvialis	Ute Ladies' - Tresses	T	No-to dry
Astragalus desereticus	Deseret Milkvetch	T	No-to dry
Pacelia argillacea	clay Phacelica	E	
Valvata Utahensis	Utah Valvata Snail	E Extirpated	No - extirpated
Chasmistes Liorus	June Sucker	E	No to high
Cuccyzus americanus	Yellow-billed Cuckoo	C	No to high
Ursus arctos	Brown (Grizzly)Bear	T-Extirpated	No-Extirpated

Utah biologist, Ron Kass has conducted a study on a nearby gravel pit in to this area and found no T&E species or habitat conducive for T&E species. In addition, he did not observe any indication of white-tailed prairie dogs or suitable habitat for the sage grouse which are Utah Species of Special Concern. (From WW Clyde NOI). Mr. Kass is now performing a study on this property and results will be forwarded when available.

109.3 - Existing soil and plant resources

Describe impacts to the existing soil and plant resources in the area to be affected by mining operations. Describe impacts to riparian or wetland areas which will be affected by mining. Describe impacts to threatened or endangered plant species. Describe measures to be taken to minimize or mitigate any impacts to soil and plant resources.

The Limestone deposit is on the surface of the ground Top soil is intermingled with the limestone. The limestone will be screened prior to entering the crusher and the topsoil removed from the limestone will be returned directly to the pit floor. This process should provide soil of similar quality as presently exists with the limestone removed.

The size of the area stripped in front of the mining and storage areas will be minimized to limit dust generation and establishment of noxious weeds. At the same time, the stripped area will be large enough to allow equipment to operate on the stripped lands, and contain within the stripped area all fly-rock that could occur from blasting.

All areas disturbed by Nielson Construction (the bonded area) will be reclaimed at the end of mining by re-grading (ripping compacted surfaces where necessary), top soiling, and re-seeding, with the goal of creating a self-renewing, perennial vegetation cover similar to native conditions.

There are no wet lands in the pit area and the berm at the bottom of the pit should prevent any impact to wetlands.

109.4 - Slope stability, erosion control, air quality, public health & safety

Describe the impacts this mining operation will have on slope stability, erosion, air quality, public health and safety. Include descriptions of highwall and slope configurations and their stability. Air quality permits from the Utah Division of Air Quality may be required for mining operations. Please reference any such permits. Describe measures to be taken to minimize or mitigate impacts to slope stability, erosion, air quality, or public health and safety.

The rock at the Emma Park pit is massive limestone rock of Palocene Flagstaff Limestone formation. During mining, all active highwalls will be maintained at 20-foot maximum height. The overall slope of these highwalls will be 1H:1V. Nielson Construction inspects all highwalls two times per month. A more extensive highwall inspection is conducted yearly with the MSHA inspector.

Erosion Control

There are no defined water channels within the existing disturbance area, or in area planned for future disturbance. However, the hillside being mined does shed water into the quarry area during precipitation events. Operations will be conducted to control water and erosion in disturbed, bonded areas. The disturbed mine area will be bordered on the low side by a safety berm to contain run off water inside the pit.

Air Quality

Nielson Construction has an Air Quality permit for our portable crushers through the State of Utah, Department of Environmental Quality, Division of Air Quality (DAQ). Our permit number for this area is DAGC-580-09, Site ID 11052 (B1)

Public Health and Safety

Nielson Construction will minimize the hazards for public safety and welfare during operations. These measures include:

No mining shafts or tunnels exist on the site. All buildings, silos, conveyors, and other facilities and equipment are signed to discourage unauthorized or accidental entry in accordance with MSHA regulations.

A gate at the single access road on the north east end of the quarry is locked when the site is not operating.

Trash, scrap metal and wood, and extraneous debris is disposed of in marked containers.

Although none are planned, any exploratory or other drill holes will be plugged and/or capping of as set forth in rule R647-4-108.

Appropriate warning signs are located at public access points.

No fuel tanks or supplies of lubricants and oils are kept at the site to minimize and control adverse environmental effects.

Used lubricating and hydraulic oils are collected pulled into recovery tanks on our service vehicles and are hauled to our shops where it is used in our used oil heaters. No used oil will be stored at the pit.

VII. Rule R647-4-110 - RECLAMATION PLAN

110.1 - Current land use and postmining land use

Current or premining land use(s) [other than mining]: _____

List future post-mine land-use(s) proposed:_____

(Develop the reclamation plan to meet proposed post-mine land use.)

Current land use and Post-Mining land use

Current land use of the property at and near the Emma Park Pit includes mining of rock products and grazing of domestic live stock. Historical use of the property was grazing with the addition of some dispersed recreation.

The post-mining land use will remain consistent with historical use. The operator will reclaim the mine site area to a condition that is capable of supporting this land use. All roads and ditches will be reclaimed.

110.2 - Reclamation of roads, highwalls, slopes, leach pads, dumps, etc.

Describe how the following features will be reclaimed: roads, highwalls, slopes, impoundments, drainages and natural drainage patterns, pits, ponds, dumps, shafts, adits, drill holes and leach pads. Describe the configuration of these features after final reclamation. Describe the rinsing and neutralization of leach pads associated with final decommissioning.

Describe how roads will be reclaimed. Road reclamation may include: regrading cut and fill sections, ripping the road surface with a dozer, topsoil replacement, construction of water bars, construction of traffic control berms or ditches, and reseeding.

Approximately 1 mile of road will be constructed about ¼ mile of this road will lie outside the disturbed pit area. All roads will be reclaimed at the end of mining activities. Reclamation of roads will include ripping to remove compaction. Roads on flat or gently sloping ground will be graded to blend the road crown and ditches with surroundings. Roads will be top soiled if materials are available using dozers and/or loaders to spread soil. All roads will be seeded with standard seed mix outlined.

Describe how highwalls will be reclaimed. Highwall reclamation may include: drilling and blasting, backfilling, regrading, topsoil replacement, and reseeding.

Mining is proposed to continue for 5 years at this site. Highwalls will be left at 3h:1v angles or less.

If mining were to cease prior to fully excavating the quarry, those highwall(s) disturbed by Nielson Construction would be left at a 3h1v or flatter to assure slope stability.

Describe how slopes will be reclaimed. Slope reclamation may include: regrading to a 3 horizontal : 1 vertical (3h:1v) configuration, topsoil replacement, contour ripping, pitting, and reseeding.

All slopes within the disturbed, bonded area will be ripped on the contour to relieve compaction and create a better seed bed.

Describe how impoundments, pits and ponds will be reclaimed. Include the final elevations and final disposition of the drainage in and around the impoundment. If the impoundment, pit, or pond is intended to be left as part of the post-mining land use, then an agreement with the land managing agency/owner is required. Structures to remain must be left in a stable condition.

The quarry will not be backfilled except for the replacement of soil on the floor of the quarry. The quarry will be reclaimed with 3h:1v minimum slope and no highwalls exposed and the floor will be reclaimed. Berms and ditches will be reclaimed to return the pit area to a natural sheet flow state.

Include the final size of the impoundment, pit, pond in acre-feet of storage and the capacity of the spillway to safely pass storm events.

Impoundments, pits, and ponds, which are not approved as part of the post mining land use shall be reclaimed, free draining, and the natural drainage patterns restored.

Describe how drainages will be reclaimed. Drainage reclamation would include: the reestablishment of a natural drainage pattern which fits in with the upstream and downstream cross-section of existing drainage in the vicinity of the disturbance; the reestablishment of a stable channel in the reclaimed reach of channel, using the necessary armoring to prevent excessive erosion and downstream sedimentation.

The road and ditch going North out of the pit ripped and filled in and graded to match the contour of the land. The native land outside the perimeter of the quarry is on gravelly, vegetated outwash plain and is subject to overland flow rather than channelized flow.

Include cross-sections and profiles of reestablished channels to demonstrate compatibility with existing drainage characteristics.

Describe how waste dumps will be reclaimed. Waste dump reclamation may include regrading to a 3h:1v configuration, topsoil replacement, mulch or biosolids applications, contour ripping or pitting, and reseeding. Characterization of the physical and chemical nature of the waste dump materials should be provided.

No waste dumps will be used at this site.

Describe how shafts and adits will be reclaimed. Reclamation of shafts may include: backfilling, installation of a metal grate, installation of a reinforced concrete cap, topsoil replacement and reseeding. Reclamation of adits may include: backfilling, installation of a block wall, installation of a metal grate, topsoil replacement and reseeding. No shafts will be constructed.

Describe how drill holes will be reclaimed. Drill hole reclamation must be consistent with the rules for plugging drill holes (R647-4-108). Reclamation of plugged drill holes may include topsoil replacement and reseeding.

No drill holes outside of those required for blasting are anticipated. If any drill holes are required, they will be plugged and sealed

Describe how tailings areas will be reclaimed. Tailings reclamation may include: dewatering, neutralization, placement of cap materials, placement of subsoil materials, topsoil replacement and reseeding. Characterization of the physical and chemical makeup of the tailings material should be provided.

Describe how leach pads will be reclaimed. Reclamation of leached materials may include: neutralization or leached materials, rinsing of leached materials, dewatering leached materials, regrading slopes of leached materials to 3h:1v, extending pad liners, placement of capping materials, placement of subsoil materials, mulch or biosolids application, topsoil replacement and reseeding. Characterization of the physical and chemical makeup of the leached materials should be provided. Post closure monitoring and collection of drain down fluids should also be addressed.

No tailings areas will be left.

NOTE: The Minerals Rules require overall highwall angles of no more than 45° at final reclamation unless a variance is granted. All dump or fill slopes should be left at an angle of 3h:1v or less. Any slopes steeper than 3h:1v must be reclaimed using state-of-the-art surface stabilization technology. Pit benches exceeding 35 feet in width should be topsoiled, or covered with fines, and revegetated.

Describe the final disposition of any stockpiled materials on site at the time of final reclamation.

110.3 - Surface facilities to be left

Describe any surface facilities which are proposed to remain on-site after reclamation (buildings, utilities, roads, drainage structures, impoundments, etc.). Describe their post-mine application. *Justification for not reclaiming these facilities must be included in the variance request section.*

Portable rock crushing and sizing equipment will be used on this site. There will be no permanent surface facilities on the site. Roads, ditches and rock check dams will be reclaimed.

110.4 - Treatment, location and disposition of deleterious materials

Describe the nature and extent of any deleterious or acid forming materials located on-site. Describe how these materials will be neutralized, removed, or disposed of on site. Describe how buildings, foundations, trash and other waste materials will be disposed of.

All conveyors, crushers, screens, and other equipment used for mining and processing of aggregate will be removed prior to reclamation. Trash and other waste will be removed. There will not be any deleterious or acid forming materials to dispose of on-site.

110.5 - Revegetation planting program and topsoil redistribution

Describe the revegetation tasks to be performed in detail. For example, will ripping, mulching, fertilizing, seeding and scarifying of these areas be performed and if so, how will this be accomplished? Correlate this information with the Reclamation Treatments Map.

After final shaping and grading of the quarry floor, slopes, roads, and ditches within the disturbed area, will be ripped and/or scarified on the contour to relieve compaction.

a) Soil Material Replacement

In order to reestablish the required ground cover, one to two feet (depending on underlying material) of suitable soil material usually has to be redistributed on the areas to be reseeded. If the stockpiled soil isn't sufficient for this, soil borrow areas will need to be located.

Describe the volume of soils and approximate depth of soil cover to be used in reclamation. Describe the source of these soils and provide an agronomic analysis of the soils. If soils will not be used describe the alternative material or amendments to be applied in lieu of soils. Describe the methods used to transport and place soils.

Topsoil will be screened from the limestone and placed on the quarry floor as mining progresses. The estimated depth of topsoil returned to the quarry floor is 12". Where possible some top soil stock piles will be made. These will be used to cover High walls, roads and ditches.

b) Seed Bed Preparation

Describe how the seedbed will be prepared and equipment to be used.
The Division recommends ripping or discing to a minimum of 12 inches and leaving the seed bed surface in as roughened condition as possible to enhance water harvesting, erosion control and revegetation success. Compacted surfaces such as roads and pads should be deep ripped a minimum of 18 inches.

Top soil will be returned directly to the quarry floor and should have similar fertility to the present top soil. However, we will test the stockpiles for organic matter, Nitrogen, Phosphorus, and Potassium. If these levels are low, composted manure will be applied to the soil or topsoil.

Topsoil will be spread by a dozer, and if needed, composted manure at up to 10 ton/acre will be spread. All surfaces will be scarified with a road grader to assure mixing of the soil and manure, and to create consistent-textured soil, the graded surface will then be tracked with a bull dozer perpendicular to the slope so that the

seed bed is roughened or corrugated to retain precipitation better and hold the seeds in place.

c) Seed Mixture - List the species to be seeded:

Provide a seed mix listing adaptable plant species and the rate of seeding that will be used at the site for reclamation. More than one seed mix may be needed, depending upon the areas to be reclaimed. Keep the proposed post-mining land use in mind when developing seed mixes.

(The Division recommends seeding 12-15 lbs./acre of native and introduced adaptable species of grass, forb, and browse seed for drill seeding and 15-20 lbs./acre for broadcast or hydro seeding. The Division can provide assistance in developing reclamation seed mixes if requested).

The table below provides the proposed seed mixture that will be used in reclamation on all bonded, disturbed areas at the Emma Park pit. Drill and broadcast seeding rates would be the same. This mixture is based on the assumption that plant species at the Emma Park Pit are similar to those at the nearby Woolsey Quarry. If the study next summer by Ron Kass proves differently these species and quantities may be adjusted accordingly.

Common Name	Scientific Name	PLS Pounds/Acre
Crested Wheatgrass	Agropyron cristatum	1.79
Intermediate Wheatgrass	Elytrigia intermedia ssp.intermedia	7.24
Forage Kochia	Kochia Prostrata	0.04
Sheep Fescue	Festuca ovina	0.56
	Total Rate to be Seeded	**9.63**

d) Seeding Method

Describe method of planting the seed.
The Division recommends planting the seed with a rangeland or farm drill. If broadcast seeding, harrow or rake the seed 1/4 to 2 inch into the soil. Fall is the preferred time to seed.

The quarry floor, roads on flat or gently sloping surfaces, and the scale house area will be seed using a range-type drill seeder.

e) Fertilization

Describe fertilization method, type(s) and application rate (if needed).

Prior to spreading any topsoil or topdressing, stockpiles and/ or the pit floor where topsoil has been placed will be tested for organic matter, Nitrogen, Phosphorus, and

Potassium. If these levels are low, up to 10 tons of composted manure per acre will be applied to the soil or topsoil or topsoil substitute after it is spread. Soil amendment quantities will be approved by DOGM prior to application.

f) Other Revegetation Procedures

Please describe other reclamation procedures, such as mulching, biosolids application, irrigation, hydroseeding, etc., that may be planned.

None.

VIII. Rule R647-4-112 VARIANCE

The Permittee / Operator may request a variance from Rules R647-4-107 (Operation Practices), R647-4-108 (Hole Plugging), and R647-4-111 (Reclamation Practices) by submitting the following information:

1.11 the rule(s) which a variance is requested from; (rule number and content)

1.12 a description of the specific variance requested and a description of the area affected by the variance request; show this area on the Reclamation Treatments Map(s).

1.13 justification for the variance;

1.14 alternate methods or measures to be utilized in the variance area.

Variance requests are considered on a site-specific basis. For each variance requested, attach a narrative which addresses the four items listed above.

Remaining Highwalls

All areas of highwall developed or affected by Nielson Construction will be reclaimed to a 3:1 slope or less. No exposed highwall will be left.

Topsoil Salvage

State Mineral Rules state that "suitable soil materials shall be removed and stored in a stable condition where practical so as to be available for reclamation." A description of existing soil types is included. This quarry is being developed because it has good quality bedrock limestone on the surface. Consequently topsoil is thin and mixed in with the limestone.

Topsoil salvaged in 2009 and beyond, would be used selectively for reclamation on all areas of the mine reclamation. This includes, in order of priority, the quarry floor, access roads. Slopes 3:1 or flatter that are north, or north-west facing, and highwalls. This material would be spread to a depth of 12 inches. All surfaces will be re-seeded.

IX. Rule R647-4-113 - SURETY

A Reclamation surety must be provided to the Division prior to final approval of this application. In calculating this amount, include the following major tasks:

1)	Clean-up and removal of structures.	$ 2,640
2)	Backfilling, grading and contouring.	$ 6,260
3)	Soil material redistribution and stabilization.	$ 4,180
4)	Revegetation (preparation, seeding, mulching).	$ 4,050
5)	Safety gates, berms, barriers, signs, etc.	$ 0
6)	Demolition, removal or burial of facilities/structures, regrading/ripping of facilities areas.	$ 0
7)	Regrading, ripping of waste dump tops and slopes.	$ 0
8)	Regrading/ripping stockpiles, pads and other compacted areas.	$ 240
9)	Ripping pit floors and access roads.	$ 360
10)	Drainage reconstruction.	$ 280
11)	Mulching, fertilizing and seeding the affected areas.	$ 9,900
12)	General site clean up and removal of trash and debris.	$ 120
13)	Removal/disposal of hazardous materials.	$ 0
14)	Equipment mobilization.	$ 1,040
15)	Supervision during reclamation.	$ 280
Total		$29,310

Some concurrent reclamation will be done as the pit expands to keep the open pit area at around 10 acres with a little additional for product stock piles and top soil stock piles and roads.

X. PERMIT FEE [Mined Land Reclamation Act 40-8-7(i)]

The Utah Mined Land Reclamation Act of 1975 [40-8-7 (I)] provides the authority for the assessment of permitting fees. Commencing with the 1998 fiscal year (July 1 - June 30), **and revised July 1, 2002,** annual permit fees are assessed to new and existing notices of intention and annually thereafter until the project disturbances are successfully reclaimed by the Permittee / Operator and released by the Division.

Large mining permits require an initial submission fee and annual fee of $500.00 for surface disturbance of 50 or less acres, or a $1,000.00 fee for surface disturbance greater than 50 acres (see page six Section III, Rule R647-4-106.3 for estimated disturbance calculation). The appropriate fee MUST accompany this application or it cannot be processed by the Division.

PLEASE NOTE: If you are expanding from a small mining operation to a large mining operation, the appropriate large mine permit fee, less the annual $150.00 small mine fee (if already paid) MUST accompany this application.

XI. SIGNATURE REQUIREMENT

I hereby certify that the foregoing is true and correct. **(Note: This form must be signed by the owner or officer of the company/corporation who is authorized to bind the company/corporation).**

Signature of Permittee / Operator/Applicant: JL Davis

Name (typed or print): James L. Davis

Title/Position (if applicable): Health, Safety and Environmental Manager

Date: 12/4/09

PLEASE NOTE:

Section 40-8-13(2) of the Mined Land Reclamation Act provides for maintenance of confidentiality concerning certain portions of this report. Please check to see that any information desired to be held confidential is so labeled and included on separate sheets or maps.

Only information relating to the location, size or nature of the deposit may be protected as confidential.

Confidential Information Enclosed: (x) Yes ( ) No

Attachment I

Vegetation Cover Sampling (Exhibits 13)

Vegetation cover sampling determines the amount of ground that is covered by live vegetation. It is divided into four categories which equal 100 percent. They are:

Vegetation - This is the live perennial vegetation. Care should be taken to avoid sampling in disturbed areas that have a large percentage of annual or weedy vegetation, such as cheatgrass and russian thistle.

Litter - This is the dead vegetation on the ground, such as leaf and stem litter.

Rock/rock fragments - This is the rock and rock fragments on the soil surface.

Bare ground - This is the bare soil which is exposed to wind and water erosion.

Cover Sampling - The following methods are acceptable:

Ocular Estimation

This method visually estimates the percentage of ground covered in a plot by the four components. Plot size is usually a meter or yard square or a circular plot 36 inches in diameter. Ten to twenty plots should be randomly sampled in each major vegetation type.

Line Intercept

Percent ground cover is obtained by stretching a tape measure (usually 100') over the ground and then recording which of the four components is under each foot mark. At least ten of these transects should be randomly laid out and measured in each major vegetation type.

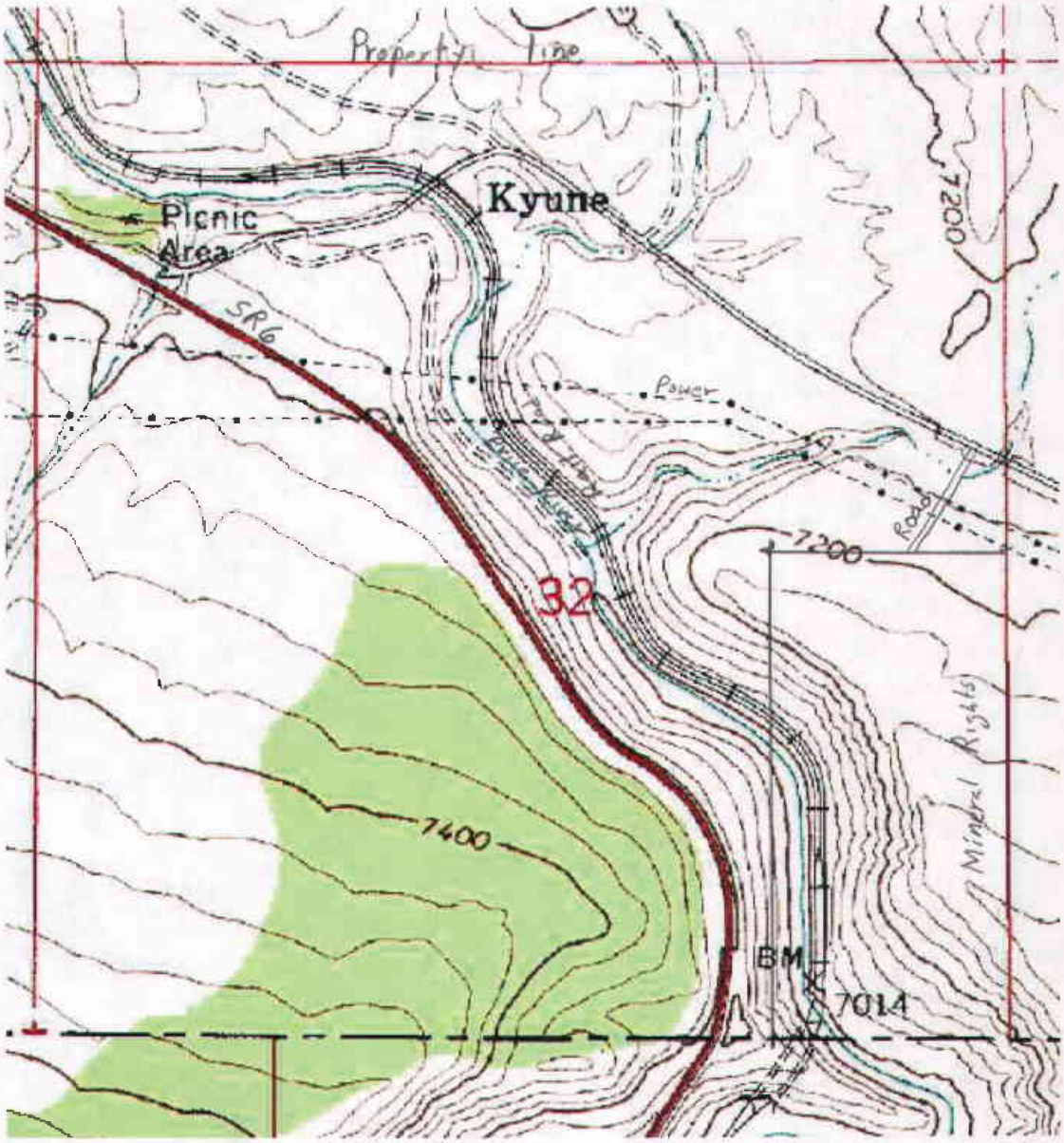
Soil Survey and Sampling Methods

If a Natural Resource Conservation Service or land management agency soil survey is not available, the Permittee / Operator shall delineate all soil types that will be disturbed by mining on a map. Each soil type shall be sampled for its characteristics and inherent properties. Representative sampling locations should have similar geologic parent material, slopes, vegetative communities and aspects. The sampling locations should be representative of the soil type and be identified on the map. Sampling shall be at a minimum of one for each soil type disturbed. (Exhibit 13, 13a, 13b, 13c)

The soil map needs to be of sufficient scale so that each soil type can be accurately located on the ground.

Generally, a soil sample for each soil type or substitute topsoil material that is planned use in revegetation will require a lab analysis for chemical/fertility properties. These parameters may include, but are not limited to: soil texture, pH, SAR (sodium absorption ratio), EC (electrical conductivity), % organic matter, CEC (cation exchange capacity), N, P (phosphorus as P_2O_4), and K (potassium as K_20_5). Please contact the Division's soils specialist to determine which parameters will need analysis for your site.

Exhibit 1



Emma Park Pit

The Property Line is all of section 32.

The Mineral Rights Property Description is the E ½ of the South East ¼.

EXHIBIT 2

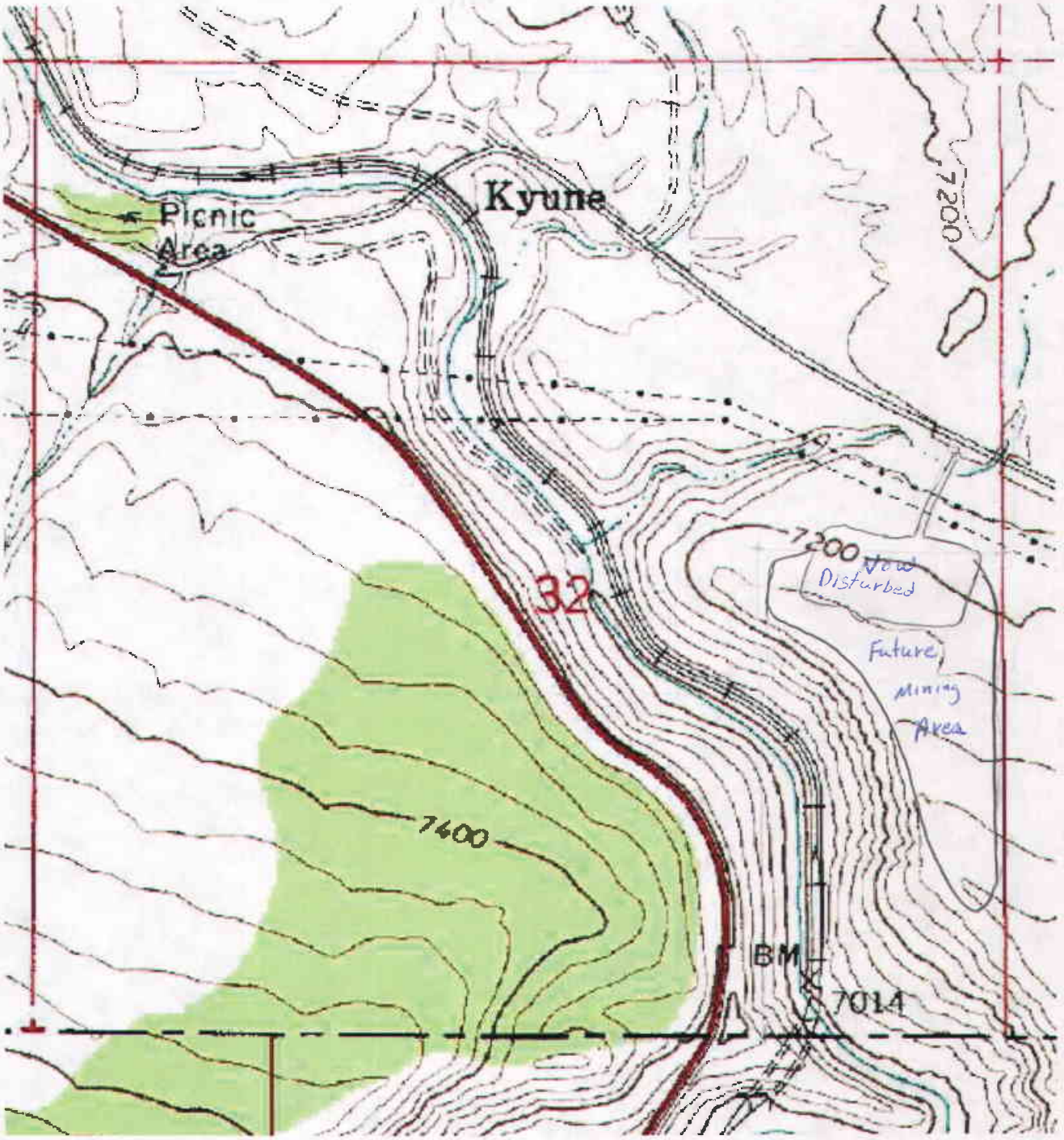
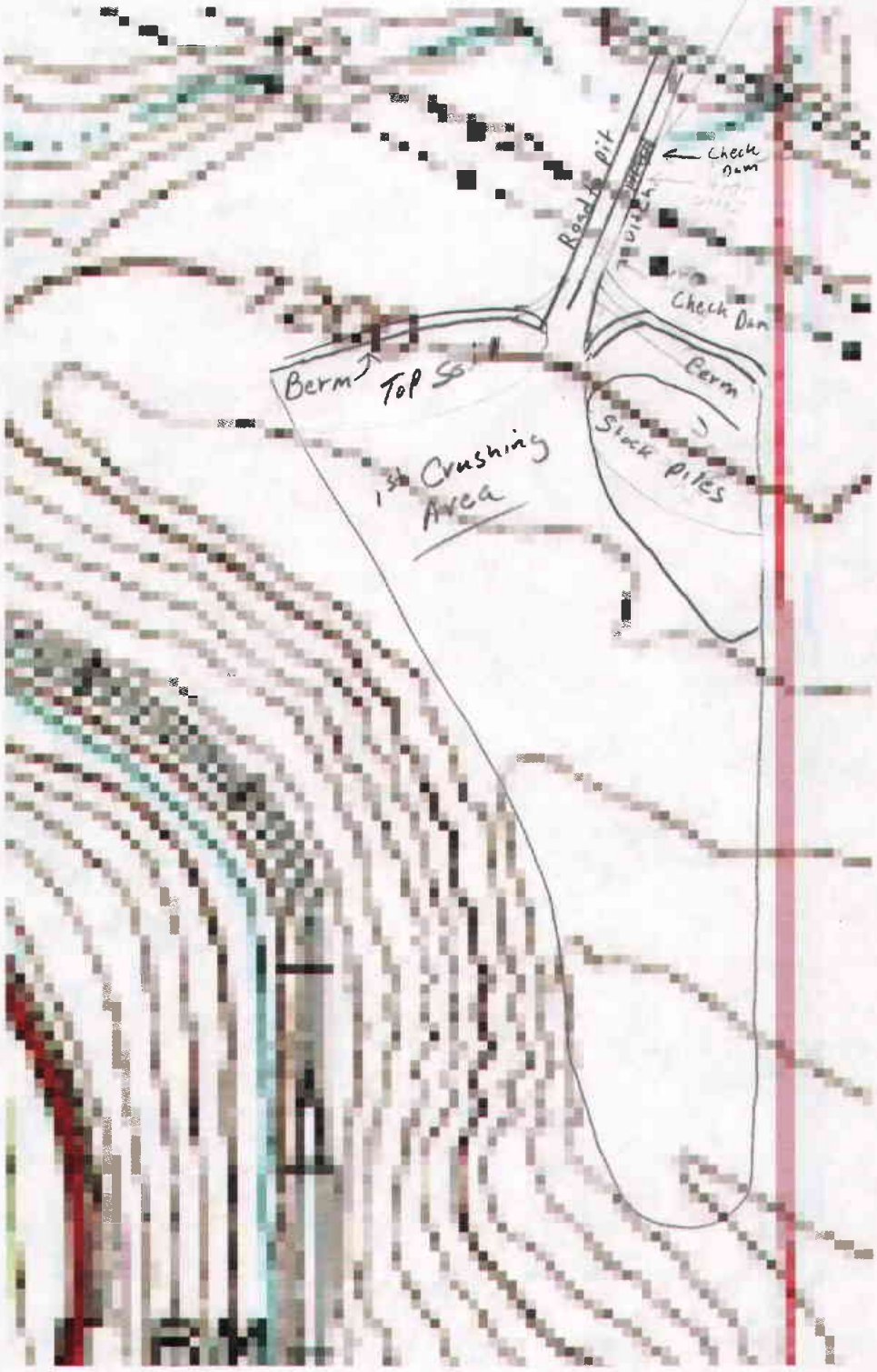
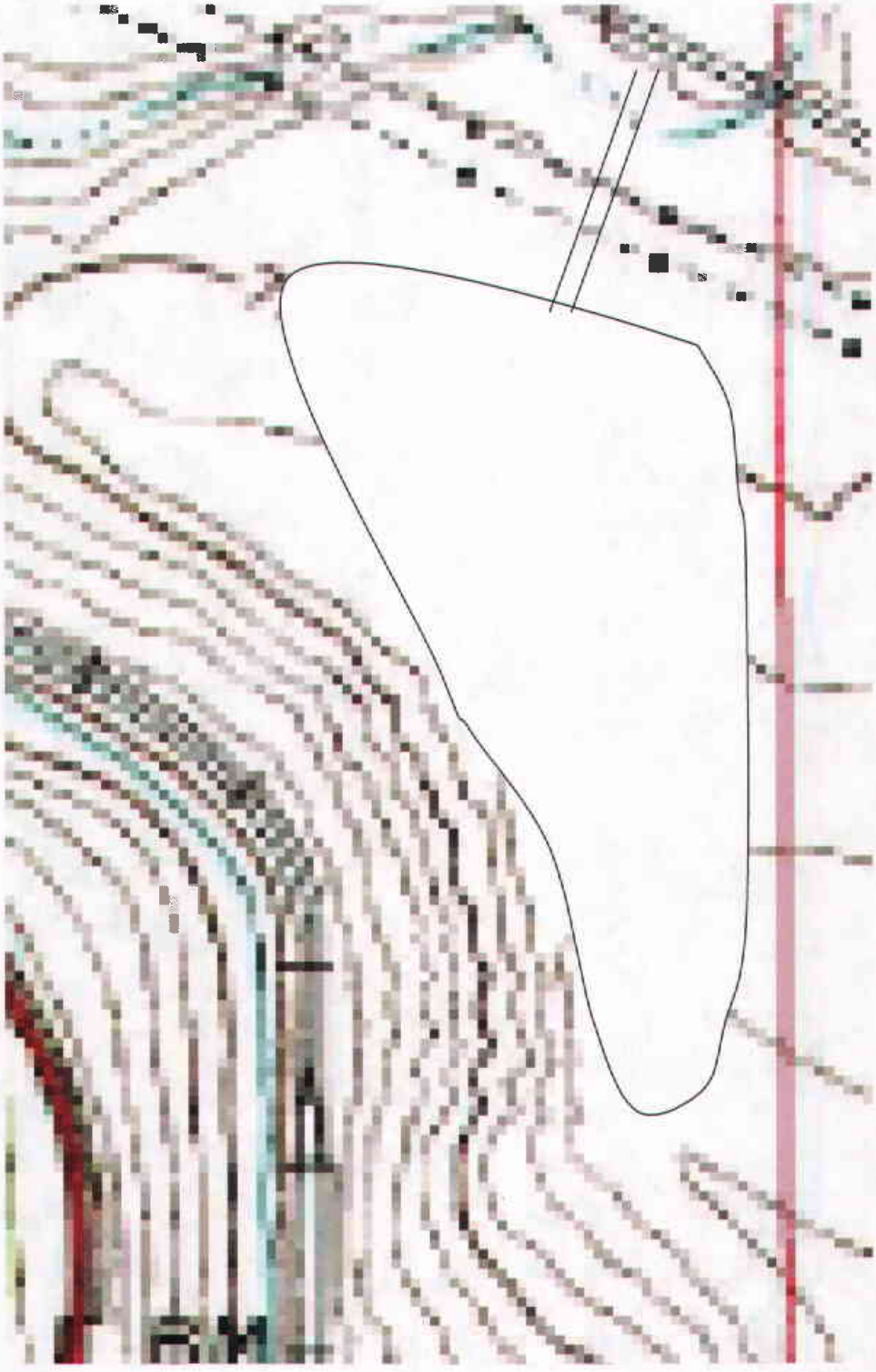

Picnic Area
Kyune
7200
7200
Now Disturbed
Future Mining Area
32
7400
BM
7014

EXHIBIT 3



Drainage Control Structures

EXHIBIT 4



Reclamation area: top soil will be placed back on floor, graded and tracked with dozer. Slopes will be contoured to fit drainage. Road and ditch will be ripped, all will be re-seeded.

EXHIBIT 5

Nielson Construction
Attn: Wayne McCandless
PO Box 620
Huntington, UT 84528

Samples Received: 11/16/09

USU ID	Identification	Texture	pH	EC	Phosphorus	Potassium	Organic Matter	SAR	Sand	Silt	Clay	>2mm
				dS/m	--------mg/kg--------		%		----------%----------			%
6396	1	Loam	7.26	1.48	18.1	106	6.3	0.2	42	46	12	46.1
6397	2	Loam	7.12	0.98	5.4	71	5.3	0.24	40	46	14	13.4
6398	3	Loam	7.02	0.99	6.9	74	6.1	0.17	34	48	18	13.9

Partial Additional Tests to be run for N

EXHIBIT 6

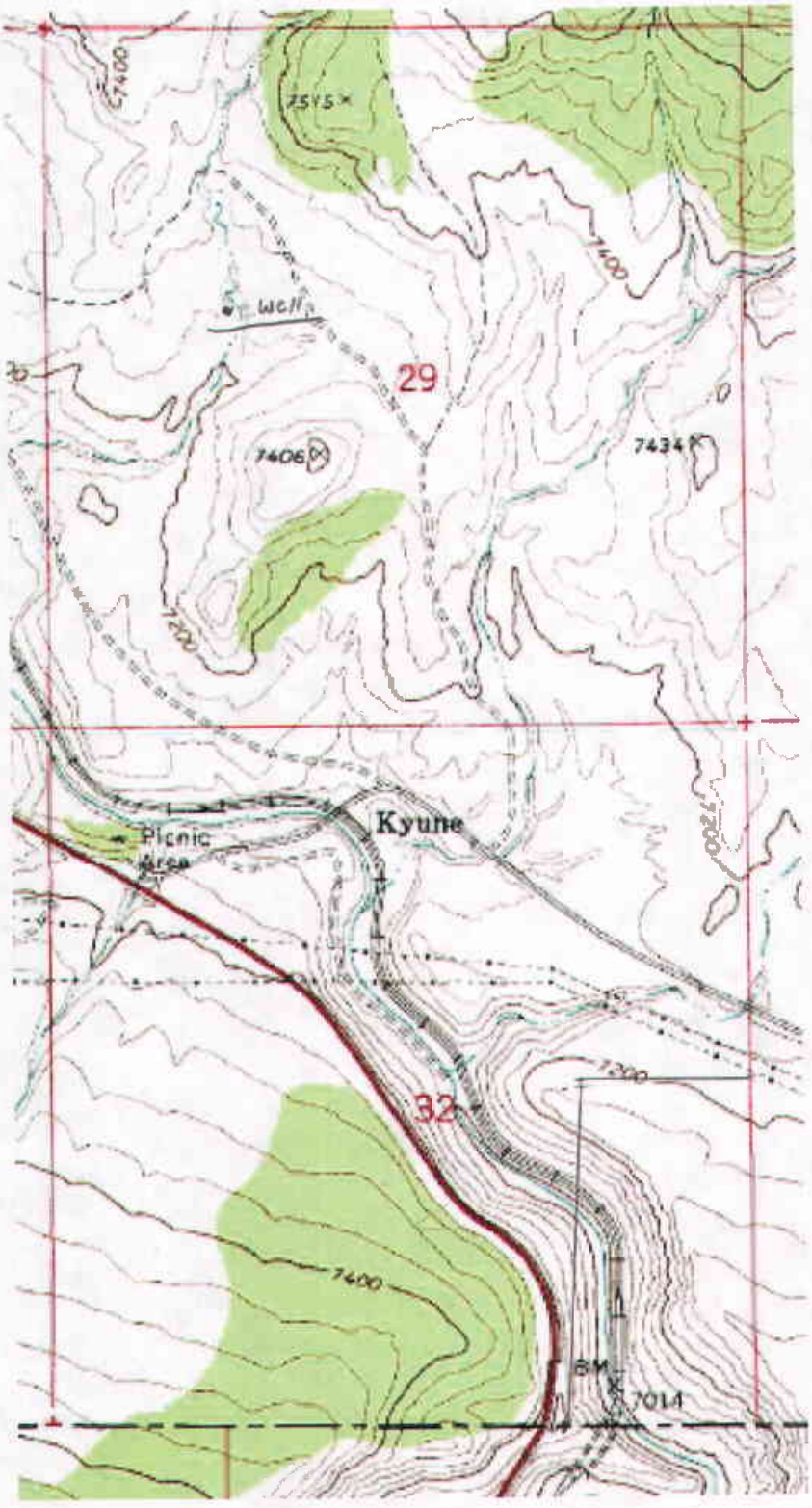
EXHIBIT 7 South

EXHIBIT 8 East

EXHIBIT 9

West

EXHIBIT 10



Area of nearest well S 2155 ft # 1400 ft from NW cor, Sec 29, T 11S R 9E, SLBM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 12/01/2009 Page 1

CHANGE: **a34568** WATER RIGHT: 91-152 CERT. NO.: COUNTY TAX ID#: AMENDATORY? No
BASE WATER RIGHTS: 91-152
RIGHT EVIDENCED BY: 91-152(A17936)
CHANGES: Point of Diversion [X], Place of Use [X], Nature of Use [ ], Reservoir Storage [ ].

NAME: Price City Municipal Corporation
ADDR: c/o Gary Sonntag
P. O. Box 893
Price UT 84501
INTEREST: 100% REMARKS:

FILED: 06/09/2008 | PRIORITY: 06/09/2008 | ADV BEGAN: 07/17/2008 | ADV ENDED: 07/24/2008 | NEWSPAPER: Sun Advocate
ProtestEnd:08/13/2008 | PROTESTED: [Hear Hel] | HEARNG HLD:10/30/2008 | SE ACTION: [Approved] | ActionDate:11/02/2009 | PROOF DUE:
EXTENSION: | ELEC/PROOF: [ ] | ELEC/PROOF: | CERT/WUC: | LAP, ETC: | LAPS LETTER:
RUSH LETTR: | RENOVATE: | RECON REQ: | TYPE: [ ]
Status: Approved
Related Distribution System: 41-PRICE RIVER

**************************H E R E T O F O R E*************************

FLOW: 5000.0 acre-feet

SOURCE: White River

COUNTY: Wasatch

**************************H E R E A F T E R**************************

FLOW: 5000.0 acre-feet

SOURCE: Underground Water Wells

COUNTY: Carbon COM DESC: 8-10 miles N of Helper

In addition to the identified heretofore Place of Use, this change application clarifies that the water is to be used within the corporate limits of price city, and adds the additional sections encompassing potential use areas within the well development area and pipeline delivery routes.

The points of diversion are in Carbon and Utah Counties.

POINT(S) OF DIVERSION ------> MAP VIEWER

Point Surface:
(1) N 0 ft W 650 ft from SE cor, Sec 09, T 10S, R 8E, SLBM
Dvrting Wks: earth dam
Source:

Point Underground:

CHANGED AS FOLLOWS: (Click Location link for WRPLAT)

UNDERGROUND: (Click Link for PLAT data, Well ID# link for data.)
(1) N 2155 ft E 1600 ft from NW cor, Sec 29, T 11S, R 9E, SLBM
Diameter: 20 ins. Depth: 100 to 2000 ft. WELL ID#:
COMMENT:
(2) N 775 ft E 245 ft from SW cor, Sec 35, T 11S, R 9E, SLBM
Diameter: 20 ins. Depth: 100 to 2000 ft. WELL ID#:
COMMENT:
(3) N 1700 ft W 1665 ft from SE cor, Sec 01, T 12S, R 9E, SLBM
Diameter: 20 ins. Depth: 100 to 2000 ft. WELL ID#:
COMMENT:
(4) N 1195 ft W 780 ft from SE cor, Sec 12, T 12S, R 9E, SLBM
Diameter: 20 ins. Depth: 100 to 2000 ft. WELL ID#:
COMMENT:
(5) S 990 ft E 1145 ft from NW cor, Sec 17, T 12S, R 10E, SLBM
Diameter: 20 ins. Depth: 100 to 2000 ft. WELL ID#:
COMMENT:

PLACE OF USE ------>

	NW¼	NE¼	SW¼	SE¼
	N N S S / W E W E	N N S S / W E W E	N N S S / W E W E	N N S S / W E W E
Sec 16 T 13S R 10E SLBM	*	:	X	*
Sec 17 T 13S R 10E SLBM	*	:	:	X *
Sec 20 T 13S R 10E SLBM	*	:	X	*
Sec 21 T 13S R 10E SLBM	*	X	X	*
Sec 28 T 13S R 10E SLBM	*	X	:	*

SAME AS HERETOFORE, AND IN ADDITION TO:

	NW¼	NE¼	SW¼	SE¼
	N N S S / W E W E	N N S S / W E W E	N N S S / W E W E	N N S S / W E W E
Sec 19 T 11S R 9E SLBM	*	X	X	*
Sec 20 T 11S R 9E SLBM	*	X	X	*
Sec 21 T 11S R 9E SLBM	*	X	X	*
Sec 22 T 11S R 9E SLBM	*	X	X	*
Sec 23 T 11S R 9E SLBM	*	X	X	*
Sec 24 T 11S R 9E SLBM	*	X	X	*
Sec 25 T 11S R 9E SLBM	*	X	X	*
Sec 26 T 11S R 9E SLBM	*	X	X	*
Sec 27 T 11S R 9E SLBM	*	X	X	*
Sec 28 T 11S R 9E SLBM	*	X	X	*
Sec 29 T 11S R 9E SLBM	*	X	X	*
Sec 30 T 11S R 9E SLBM	*	X	X	*

Sec 31	T	11S	R	9E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 32	T	11S	R	9E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 33	T	11S	R	9E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 34	T	11S	R	9E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 35	T	11S	R	9E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 36	T	11S	R	9E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 19	T	11S	R	10E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 20	T	11S	R	10E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 21	T	11S	R	10E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 22	T	11S	R	10E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
Sec 23	T	11S	R	10E	SLBM	*X:X:X:X**X:X:X:X**X:X:X:X**X:X:X:X*
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NATURE OF USE ------>	SAME AS HERETOFORE
SUPPLEMENTAL to Other Water Rights: Yes	SUPPLEMENTAL to Other Water Rights: No
MUN: Price USED 01/01 - 12/31	

RESERVOIR STORAGE -->

Storage 10/01 to 07/30, in unnamed reservoir
with a maximum capacity of 6000.000 acre-feet, located in:

	--NW¼--	--NE¼--	--SW¼--	--SE¼--
Height of Dam: 26 ft	N N S S	N N S S	N N S S	N N S S
Area Inundat 352.000 acs	W E W E	W E W E	W E W E	W E W E
Sec 09 T 10S R 8E SLBM	* :X: : **X: :X:X** : : : **X:X: :X*			
Sec 10 T 10S R 8E SLBM	* : :X: ** :X:X: **X:X:X: ** : : : *			

REMOVED from Water Right

PROTESTANTS

NAME: James T. Jensen
ADDR: 2961 Caitland Court
Salt Lake City, UT 84121

NAME: Carbon Canal Company
ADDR: c/o Richard C. Borrell - President
PO Box 779
Price, UT 84501

NAME: Park Ventures L.C.
ADDR: c/o Reed L. Martineau - Attorney
PO Box 45000
Salt Lake City, UT 84145-5000

NAME: PacifiCorp Energy
ADDR: c/o Claudia Conder
1407 West North Temple
Salt Lake City, UT 84116

NAME: William Marsing Livestock, Inc.
ADDR: c/o William Butcher
4330 East 89-- South
Price, UT 84501

NAME: Pioneer Ditch No. 2
ADDR: c/o Wm Mathis and Robert Thomas
1550 East Hwy 50 and 6
Price, UT 84501

NAME: Price River Water Improvement District
ADDR: c/o Karl Houskeeper
PO Box 903
Price, UT 84501

NAME: Price Wellington Control Board
ADDR: c/o Keith Grogan, et al
PO Box 562
Price, UT 84501

END OF DATA

Ex 11

utah.gov | Online Services | Agency List | Business | Search

Utah Division of Water Rights

WRPLAT Point of Diversion Query Program

Version: 2009.05.06.00 **Rundate: 12/01/2009 10:28 AM**

Section Query Page

Search | Browse | Bearing Calculator | Location Calculator | Quit

Fill in the information below and press either the **Search** or **Browse** button to perform a point of diversion search using a radius from a point.
Hint: Browse allows you to zoom and pan to customize the map display area before printing, Search goes straight to the print ready screen.

Search Radius (feet): 2000
from a point located South 2155 feet East 1400 feet
from the NW Corner, Section 29
Township 11S, Range 9E, SL b&m.

QUERY TYPE LIMITATIONS			
STATUS OF RIGHT	**TYPE OF DIVERSION**	**APPLICATION TYPE**	**WATER USE TYPE**
☑ Unnapproved	☑ Underground	☑ Water Right	☑ Irrigation
☑ Approved	☑ Surface	☑ Changes	☑ Stock Water
☑ Perfected	☑ Springs	☑ Exchanges	☑ Domestic
☐ Terminated	☑ Drains	☐ Test Wells	☑ Municipal
	☑ Point to Point	☐ Sewage Reuse	☑ Mining
	☑ Rediversion		☑ Power
	☑ Return		☑ Other
	☐ Abandoned Well		

EXHIBIT 12

nationalatlas.gov™
Where We Are

UTAH

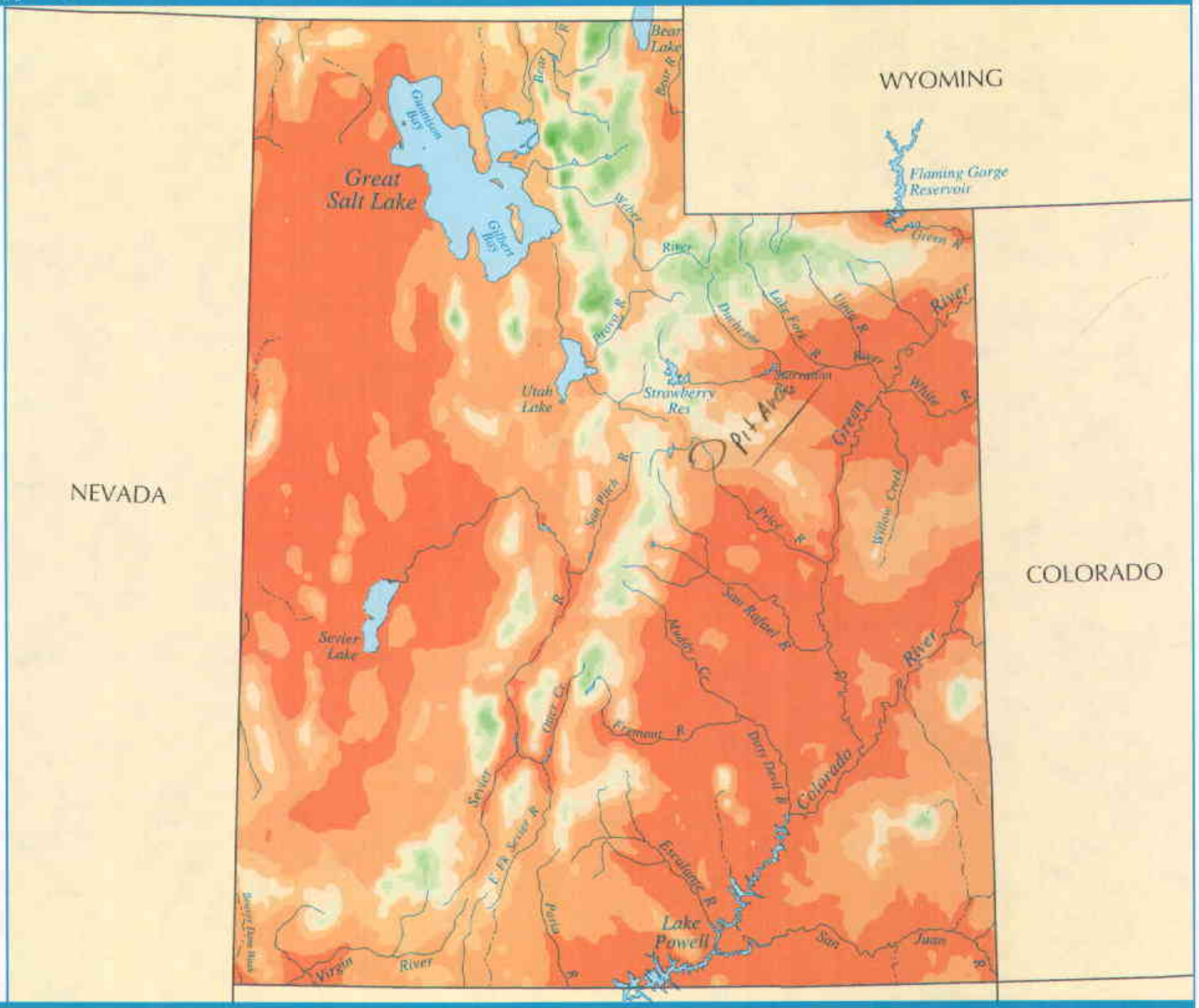
PRECIPITATION

Precipitation varies widely across the United States, from a low of 2.3 inches per year in California's Death Valley to a high of 460 inches on Hawaii's Mount Waialeale. Nevada ranks as the driest state, with an average annual precipitation of 9.5 inches, and Hawaii is the wettest, at 70.3 inches. The average annual precipitation for Utah is 11.86 inches.

Average Annual Precipitation (in inches)
1961-1990

- 180.1-200
- 140.1-180
- 120.1-140
- 100.1-120
- 80.1-100
- 70.1-80
- 60.1-70
- 50.1-60
- 40.1-50
- 35.1-40
- 30.1-35
- 25.1-30
- 20.1-25
- 15.1-20
- 10.1-15
- 5.1-10
- 5 and less

MILES
0 20 40 60 80
Albers equal area projection



U.S. Department of the Interior
U.S. Geological Survey

The National Atlas of the United States of America®

pageprecip_ut3.pdf INTERIOR-GEOLOGICAL SURVEY, RESTON, VIRGINIA-2005

EXHIBIT 13

Intermountain Ecosystems, LLC.
270 east 1230 north
Springville, Ut. 84663

21 January 2009

Lance Greer
W.W. Clyde
1375 North Main Street
Springville, Utah 84663

RE: Woolsey Pit, Utah County—Ocular Estimate of Vegetation

Dear Mr. Greer:

On October 10, I inventoried approximately 300 acres for the occurrence of Jurisdictional Wetlands administered under the Clean Water Act and Threatened and Endangered Species administered under the Endangered Species Act. The parcel is approximately located at Latitude N 39 degrees 50.623 minutes and longitude W 111 degrees and 0.241 minutes near Colton, Utah.

In addition to the T&E and wetland inventory, I estimated live canopy cover of shrubs, forbs and grasses by species. The vegetation analysis was by ocular reconnaissance, walking throughout the project area and estimating cover by species. The inventory was qualitative and conducted by Dr. Ronald J. Kass, botanist. The following is a list of the most abundant species on site.

Common Name	Scientific Name	Plant Type	% Percent Cover
Big sagebrush	Artemisia tridentata	Shrub	27
Snakeweed	Xanthrocephalum sarothrae	Shrub	10.0
Shadscale	Atriplex confertifolia	Shrub	3.0
Needle and thread	Stipa comata	Grass	2.0
Purple threeawn	Arisitida purpureus	Grass	2.0
Cheatgrass	Bromus tectorum	Shrub	1.0
Sulfur buckwheat	Eriogonum umbellatum		1.0
Pussy toes	Antennaria microphylla	Forb	0.75
Total Vegetative Cover			47.0

EX. 13

Plant cover is slightly biased because of the late season lack of forb cover. There was some cryptobiotic crust but this was not estimated. Cattle were present in the surrounding areas and numerous small mammal activity was observed.

A telephone conversation with Lynn Kunzler of DOGM (January 20, 2009) indicated that a comprehensive vegetation and soil survey be conducted during the growing season in 2009 to quantitatively characterize the project area. The inventory will be conducted in June or July and submitted as a report to DOGM.

Sincerely;

Ronald J. Kass, Botanist

EX. 13

United States Department of Agriculture

NRCS
Natural Resources Conservation Service
240 West Highway 40 (333-4)
Roosevelt, UT 84066

November 17, 2008

Subject: Prime Farmland Determination for the Woolsey Quarry in parts of section 23 and section 26 southeast of Colton, UT

Brent R. Sumsion
Clyde Companies, Inc.
P.O. Box 1955
730 North 1500 West
Orem, UT 84059

Dear Mr. Sumsion:

We have reviewed your request for Prime and Unique Farm Lands and Farmlands of Statewide Importance clearance for a proposed limestone quarry. I am enclosing a draft copy of the soil survey map for the area for your reference. I am also including map unit descriptions for the dominant soils in the area and a *Physical Properties Table and an Engineering Properties Table* for those map units. The values shown in the table are estimates and do remove the need or onsite investigation.

There appears to be two soil survey mapping units within the site of the proposed Woolsey Quarry:

- DJE – Avintaquin-Floak-Pendant complex, 8 to 15 percent slopes
- DLC – Osote-Emmapark association, 3 to 15 percent slopes, Gullied

These two soil survey mapping units do not meet the established criteria for prime farmland and lands designated as farmlands of statewide importance for one or more of the following reasons:

- 10 percent or more of the surface layer (upper 6 inches) in these soils consists of rock fragments coarser than 3 inches (7.6 cm); and/or
- The product of K (erodibility factor) x percent slope is greater than 2.0; and/or
- The soils do not have a sufficient available water capacity within a depth of 40 inches (1 meter), or in the root zone (root zone) in the part of the soil that is penetrated or can be penetrated by plant roots) and does not have an established irrigation system that is dependable and of adequate quality.

Ex. 13

The soils in these two soil survey mapping units have not been designated as unique farmlands in Utah County.

I have requested our area range management specialist to work on a recommended reclamation seed mix. He is out of the office for a few days. He told me that he would work on the seed mix as soon as he returns to his office. I will forward to you that information as soon as I receive it.

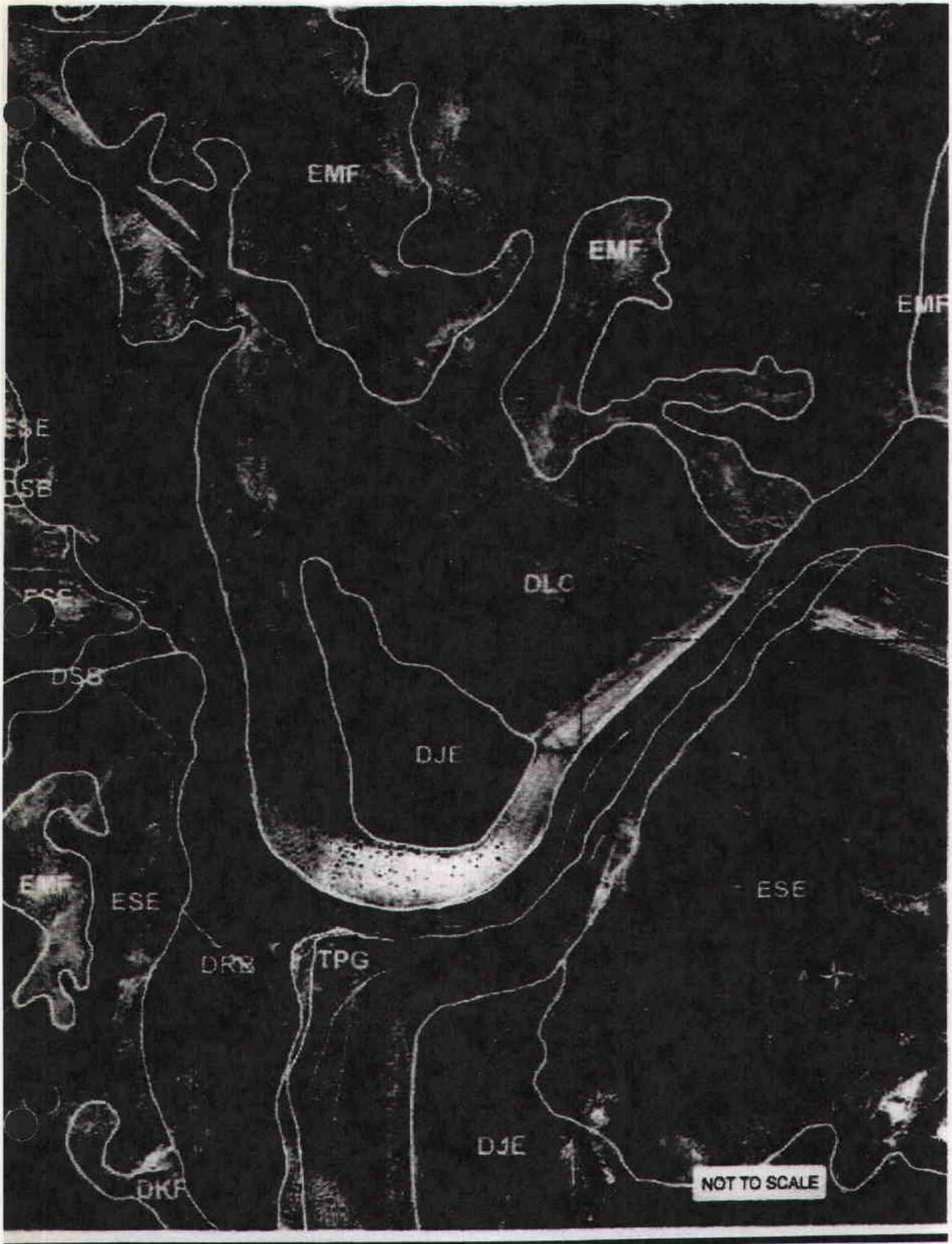
The soils information is in DRAFT form at this time, and will not be readily available to the public for a two or three more years.

Robert H. Fish
Area Resource Soil Scientist

Enclosure

Cc: Wayne Greenhalgh, DC, NRCS, Price, UT

EX. 13



EX 13

DRAFT

DJE—Avintaquin-Floak-Pendant complex, 8 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 47
Elevation: 7,050 to 7,900 feet (2,149 to 2,408 meters)
Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)
Mean annual air temperature: 39 to 45 degrees F (3.9 to 7.0 degrees C)
Frost-free period: 60 to 90 days

Map Unit Composition

Avintaquin and similar soils: 55 percent
Floak and similar soils: 20 percent
Pendant and similar soils: 20 percent
Minor components: 5 percent

Component Descriptions

Avintaquin soils
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Parent material: Residuum weathered from limestone and/or slope alluvium derived from limestone
Slope: 8 to 15 percent
Shape (down/across): Linear/convex
Surface fragments: About 5 percent flagstones, about 25 percent channers, about 3 percent stones, about 15 percent gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 39 inches to bedrock, lithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 1.7 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Calcium carbonate maximum: About 50 percent
Gypsum maximum: None
Salinity maximum: About 5 mmhos/cm (slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Stony Loam (Browse)
Potential native vegetation: Utah serviceberry, bitterbrush, bluebunch wheatgrass, bluegrass, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, saline wildrye, snowberry, western wheatgrass
Land capability subclass (nonirrigated): 7e

Typical Profile:
0 to 7 inches; extremely channery loam
7 to 17 inches; extremely channery clay loam
17 to 29 inches; extremely channery clay loam
29 to 33 inches; bedrock

Floak soils
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Parent material: Eolian deposits over slope alluvium derived from limestone over residuum weathered from limestone
Slope: 8 to 15 percent
Shape (down/across): Linear/concave
Surface fragments: About 3 percent angular channers, about 3 percent subrounded cobbles, about 10 percent subrounded gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 39 inches to bedrock, lithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 3.8 inches (low)
Shrink-swell potential: About 2.4 percent (low)
Calcium carbonate maximum: About 50 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Oak)
Potential native vegetation: Gambel oak, Indian ricegrass, Oregongrape, Utah serviceberry, geranium, mountain big sagebrush, mountain brome, saline wildrye, snowberry, wheatgrass
Land capability subclass (nonirrigated): 4e

Typical Profile:
0 to 6 inches; gravelly loam
6 to 15 inches; silty clay loam
15 to 19 inches; very cobbly clay loam
19 to 34 inches; very cobbly loam
34 to 38 inches; bedrock

Pendant soils
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Parent material: Residuum weathered from limestone and/or slope alluvium derived from limestone
Slope: 8 to 15 percent
Shape (down/across): Convex/convex
Surface fragments: About 10 percent angular flagstones, about 20 percent angular

channers, about 2 percent subrounded (shape or size unspecified)
Depth class: Very shallow
Depth to restrictive feature: 7 to 10 inches to bedrock, lithic
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in/hr (moderate)
Available water capacity: About 0.7 inches (very low)
Shrink-swell potential: About 1.5 percent (low)
Calcium carbonate maximum: About 40 percent
Gypsum maximum: None
Salinity maximum: About 5 mmhos/cm (slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Shallow Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Utah serviceberry, bluebunch wheatgrass, bluegrass, buckwheat, cheatgrass, mountain big sagebrush, needleandthread, phlox, prairie Junegrass, rabbitbrush, snowberry
Land capability subclass (nonirrigated): 7e

Typical Profile:
0 to 1 inches; extremely flaggy silt loam
1 to 4 inches; very flaggy silt loam
4 to 8 inches; very flaggy silt loam
8 to 12 inches; bedrock

Minor Components
Rock outcrop
Composition: About 3 percent

Osote and similar soils
Composition: About 2 percent
Landform: Mountain slopes
Position on landform: Footslopes
Slope: 8 to 10 percent
Shape (down/across): Linear/convex
Ecological site: Mountain Shallow Loam (Mountain Big Sagebrush)

DLC—Osote-Emmapark association, 3 to 15 percent slopes, gullied

Map Unit Setting
Major Land Resource Area: 47, 48A
Elevation: 7,100 to 8,000 feet (2,164 to 2,439 meters)
Mean annual precipitation: [redacted] (381 to 457 millimeters)
Mean annual air temperature: 43 to 45 degrees F. (6.0 to 7.0 degrees C.)
Frost-free period: 70 to 80 days

Map Unit Composition
Osote and similar soils: 60 percent
Emmapark and similar soils: 20 percent
Minor components: 20 percent

Component Descriptions
Osote soils
Landform: Drainageways, alluvial fans
Position on landform: Mountainbase
Parent material: Alluvium derived from sandstone and shale
Slope: 3 to 18 percent
Shape (down/across): Linear/linear
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: [redacted] (moderately slow)
Available water capacity: About 10.1 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Calcium carbonate maximum: About 30 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: basin big sagebrush, blue wildrye, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, snowberry, western wheatgrass
Land capability subclass (nonirrigated): 4e

Typical Profile:
0 to 8 inches; clay loam
8 to 15 inches; silty clay loam
15 to 31 inches; silty clay loam
31 to 49 inches; silty clay loam
49 to 62 inches; silty clay loam

Emmapark soils
Landform: Fan remnants
Parent material: Alluvium derived from sandstone and shale
Slope: 3 to 18 percent
Shape (down/across): Convex/linear
Surface fragments: About 5 percent angular flagstones, about 15 percent angular channers
Depth class: Very deep
Drainage class: Well drained

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Slowest permeability: 0 2 to 0 6 in/hr (moderately slow)
Available water capacity: About 5.5 inches (low)
Shrink-swell potential: About 1 7 percent (low)
Calcium carbonate maximum: About 35 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Rocky Mountain juniper, blue wildrye, bluegrass, milkvetch, mountain big sagebrush, phlox, prairie Junegrass, rabbitbrush, serviceberry, slender wheatgrass, snowberry, wax currant, western wheatgrass
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 2 inches; channery loam
2 to 7 inches; channery clay loam
7 to 19 inches; very channery clay loam
19 to 42 inches; very channery clay loam
42 to 54 inches; extremely channery clay loam
54 to 60 inches; extremely channery clay loam

Minor Components

Tycreek and similar soils
Composition: About 10 percent
Landform: Mountain slopes
Position on landform: Footslopes
Position on landform: Mountainbase
Slope: 3 to 15 percent
Shape (down/across): Linear/concave
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Kyune and similar soils
Composition: About 5 percent
Landform: Mountain slopes
Position on landform: Footslopes
Slope: 10 to 20 percent
Shape (down/across): Convex/convex
Ecological site: Mountain loam (Salina wildrye)

Gremo and similar soils
Composition: About 2 percent
Landform: Mountain slopes
Slope: 15 to 40 percent
Shape (down/across): Convex/convex
Ecological site: Mountain loam (Salina wildrye)

Rock outcrop
Composition: About 1 percent

Brycan and similar soils
Composition: About 1 percent
Landform: Drainageways
Slope: 3 to 5 percent
Shape (down/across): Linear/concave
Flooding hazard: Very Rare
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Cookcan and similar soils
Composition: About 1 percent
Landform: Flood plains
Slope: 1 to 2 percent
Shape (down/across): Linear/concave
Flooding hazard: Occasional
Ecological site: Wet Fresh Meadow (Sedge)

EMF—Gremo-Kyune-Rock outcrop association, 15 to 65 percent slopes

Map Unit Setting

Major Land Resource Area: 48A, 47
Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)
Mean annual precipitation: 15 to 17 inches (381 to 432 millimeters)
Mean annual air temperature: 43 to 45 degrees F (6 0 to 7.0 degrees C.)
Frost-free period: 70 to 100 days

Map Unit Composition

Gremo and similar soils: 50 percent
Rock outcrop: 15 percent
Kyune and similar soils: 15 percent
Minor components: 20 percent

Component Descriptions

Gremo soils
Landform: Hillslopes
Position on landform: Side slope
Parent material: Alluvium derived from sandstone and/or residuum weathered from sandstone
Slope: 15 to 65 percent
Shape (down/across): Convex/convex
Surface fragments: About 5 percent angular channers, about 2 percent subangular cobbles, about 12 percent subangular gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 30 inches to bedrock, paralithic
Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 3.8 inches (low)
Shrink-swell potential: About 3.2 percent (moderate)
Calcium carbonate maximum: About 30 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain very steep loam (Salina wildrye)
Potential native vegetation: Indian ricegrass, Utah juniper, bitterbrush, bluegrass, buckwheat, intermediate wheatgrass, mountain big sagebrush, rabbitbrush, saline wildrye, slender wheatgrass
Land capability subclass (nonirrigated): 7e

Typical Profile:
0 to 6 inches, gravelly clay loam
6 to 16 inches; silty clay loam
16 to 20 inches; channery loam
20 to 24 inches; parachannery clay loam
24 to 28 inches; bedrock

Kyune soils
Landform: Hillslopes
Position on landform: Base slope
Parent material: Shale and/or alluvium
Slope: 15 to 65 percent
Shape (down/across): Concave/concave
Surface fragments: About 2 percent angular channers, about 2 percent subangular cobbles, about 5 percent subangular gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 39 inches to bedrock, paralithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 4.3 inches (low)
Shrink-swell potential: About 1.8 percent (low)
Calcium carbonate maximum: About 30 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Rocky Mountain juniper, Utah juniper, Utah serviceberry, buckwheat, mountain big sagebrush, rabbitbrush, saline wildrye, slender wheatgrass, snowberry, winterfat
Land capability subclass (nonirrigated): 7e

Typical Profile:
0 to 8 inches; loam
8 to 11 inches; clay loam
11 to 18 inches; gravelly loam
18 to 27 inches; silt loam
27 to 30 inches; paragravelly very fine sandy loam
30 to 34 inches; bedrock

Rock outcrop
Slope: 30 to 150 percent

Minor Components
Ustorthent and similar soils
Composition: About 10 percent
Landform: Hillslopes
Position on landform: Nose slope
Slope: 30 to 65 percent
Ecological site: Mountain very steep loam (Salina wildrye)

Badland
Composition: About 3 percent

Pathead and similar soils
Composition: About 2 percent
Landform: Mountain slopes
Position on landform: Side slope
Slope: 20 to 50 percent
Shape (down/across): Concave/convex
Ecological site: Mountain Very Steep Stony Loam (Browse)

Podo and similar soils
Composition: About 2 percent
Landform: Ridges
Slope: 15 to 30 percent
Shape (down/across): Convex/convex
Ecological site: Mountain Very Steep Stony Loam (Browse)

Tycreek and similar soils
Composition: About 2 percent
Landform: Hillslopes
Position on landform: Base slope
Slope: 15 to 20 percent
Shape (down/across): Concave/concave
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Talus
Composition: About 1 percent

ESE—Kyune-Tycreek-Clyl complex, 5 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 47
Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)
Mean annual precipitation: 15 to 19 inches (381 to 483 millimeters)
Mean annual air temperature: 41 to 43 degrees F. (5.0 to 6.1 degrees C.)
Frost-free period: 70 to 100 days

Map Unit Composition

Kyune and similar soils: 35 percent
Tycreek and similar soils: 30 percent
Clyl and similar soils: 20 percent
Minor components: 15 percent

Component Descriptions

Kyune soils
Landform: Hillslopes
Position on landform: Backslopes
Parent material: Slope alluvium derived from shale and siltstone over residuum weathered from shale and siltstone
Slope: 5 to 25 percent
Shape (down/across): Convex/convex
Surface fragments: About 1 percent angular flagstones, about 20 percent angular channers, about 5 percent subangular cobbles, about 15 percent subangular gravel
Depth class: Moderately deep
Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 3.7 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Calcium carbonate maximum: About 28 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Utah serviceberry, blue grama, buckwheat, mountain big sagebrush, rabbitbrush, saline wildrye, slender wheatgrass, snowberry
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 6 inches; channery loam
6 to 11 inches; channery loam
11 to 20 inches; channery loam
20 to 31 inches; paragravelly silty clay loam
31 to 35 inches; bedrock

Tycreek soils
Landform: Mountain slopes
Position on landform: Mountainbase
Parent material: Slope alluvium derived from shale and siltstone
Slope: 5 to 15 percent
Shape (down/across): Concave/concave
Surface fragments: About 10 percent subangular gravel, about 8 percent subangular cobbles, about 5 percent angular channers, about 1 percent angular flagstones
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 7.6 inches (moderate)
Shrink-swell potential: About 2.9 percent (low)
Calcium carbonate maximum: About 35 percent
Gypsum maximum: None
Salinity maximum: About 4 mmhos/cm (very slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Letterman's needlegrass, Rocky Mountain juniper, Utah juniper, Utah serviceberry, mountain big sagebrush
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 9 inches; channery loam
9 to 15 inches; gravelly clay loam
15 to 23 inches; cobbly clay loam
23 to 34 inches; clay loam
34 to 42 inches; gravelly loam
42 to 65 inches; cobbly loam

Clyl soils
Landform: Terraces
Parent material: Alluvium derived from limestone, calcareous shale and sandstone
Slope: 5 to 20 percent
Shape (down/across): Linear/convex
Surface fragments: About 20 percent subangular gravel, about 15 percent subangular cobbles, about 5 percent subangular stones, about 1 percent angular flagstones
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 4.7 inches (low)

Shrink-swell potential: About 1.5 percent (low)
Calcium carbonate maximum: About 40 percent
Gypsum maximum: None
Salinity maximum: About 5 mmhos/cm (slightly saline)
Sodium adsorption ratio maximum: About 0 (nonsodic)
Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush)
Potential native vegetation: Indian ricegrass, Utah juniper, Utah serviceberry, blue grama, lupine, mountain big sagebrush, muttongrass, rabbitbrush, snakeweed, snowberry
Land capability subclass (nonirrigated): 6e

Typical Profile:
0 to 4 inches; very cobbly fine sandy loam
4 to 11 inches; very stony fine sandy loam
11 to 21 inches; very cobbly loam
21 to 44 inches; very stony loam
44 to 60 inches; very stony loam

Minor Components

Gremo and similar soils
Composition: About 5 percent
Landform: Hillslopes
Position on landform: Shoulders
Slope: 25 to 30 percent
Shape (down/across): Convex/convex
Ecological site: Mountain loam (Salina wildrye)

Brycan and similar soils
Composition: About 3 percent
Landform: Drainageways
Slope: 3 to 6 percent
Shape (down/across): Linear/concave
Flooding hazard: Very Rare
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Osote and similar soils
Composition: About 3 percent
Landform: Alluvial fans
Slope: 3 to 15 percent
Shape (down/across): Linear/concave
Ecological site: Mountain Loam (Mountain Big Sagebrush)

Gravel pit
Composition: About 3 percent

Rock outcrop
Composition: About 1 percent

Rangeland Productivity DRAFT DRAFT DRAFT

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

Duchesne Area, Utah, Parts of Duchesne, Utah and Wasatch Counties PRINT DATE 12/18/2008

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		Lb/acre	Lb/acre	Lb/acre
DJE:				
Avintaquin	Mountain Stony Loam(browse)	1500	1300	800
Floak	Mountain Loam (oak)	1650	1100	[illegible]
Pendant	Mountain Shallow Loam (mountain Big Sagebrush)	1400	1100	750
Rock outcrop	---	---	---	---
Osote	Mountain Shallow Loam (mountain Big Sagebrush)	1400	1100	750
DLC:				
Osote	Mountain Loam (mountain Big Sagebrush)	[illegible]	1300	900
Emmapark	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Tycreek	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Kyune	Mountain Loam (salina Wildrye)	1900	1400	900
Gremo	Mountain Loam (salina Wildrye)	1900	1400	900
Brycan	Mountain Loam (mountain Big Sagebrush)	1700	1300	900
Cookcan	Wet Fresh Meadow (sedge)	6400	4900	3400
Rock outcrop	---	---	---	---

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Duchesne Area, Utah, Parts of Duchesne, Utah, and Wasatch Counties
Physical Soil Properties

Print date: 11/17/2008

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
DJE:														
Avintaquin	0-7	25-52	27-50	18-27	1.25-1.40	0.2-0.6	0.04-0.05	0.0-2.9	2.0-4.0	.05	.24	2	8	0
	7-17	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.05-0.06	0.0-2.9	1.0-3.0	.02	.20			
	17-29	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.05-0.06	0.0-2.9	0.5-1.0	.05	.24			
	29-33	---	---	---	---	0.00-0.6	---	---	---	---	---			
Floak	0-6	25-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	2	6	48
	6-15	0-20	40-73	27-35	1.15-1.30	0.2-0.6	0.16-0.19	2.9-5.9	1.0-3.0	.37	.37			
	15-19	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.05	.20			
	19-34	25-52	15-53	18-27	1.25-1.40	0.6-2	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
	34-38	---	---	---	---	0.00-0.6	---	---	---	---	---			
Pendant	0-1	0-50	50-87	18-27	1.15-1.30	0.6-2	0.04-0.06	0.0-2.9	2.0-4.0	.05	.32	1	6	48
	1-4	0-50	50-87	18-27	1.15-1.30	0.6-2	0.08-0.10	0.0-2.9	1.0-3.0	.15	.37			
	4-8	0-50	50-87	18-27	1.15-1.30	0.6-2	0.08-0.10	0.0-2.9	1.0-2.0	.15	.43			
	8-12	---	---	---	---	0.00-0.6	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Osote	---	---	---	---	---	---	---	---	---	---	---	---	---	---
DLC:														
Osote	0-8	---	---	27-35	1.25-1.40	0.2-0.6	0.16-0.19	3.0-5.9	2.0-4.0	.17	.17	5	4L	86
	8-15	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	1.0-2.0	.28	.28			
	15-31	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	0.5-1.0	.32	.32			
	31-49	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
	49-62	---	---	27-35	1.15-1.30	0.2-0.6	0.16-0.19	3.0-5.9	0.0-0.5	.37	.37			
Emmapark	0-2	---	---	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	2	8L	86
	2-7	---	---	27-35	1.25-1.40	0.2-0.6	0.13-0.16	3.0-5.9	1.0-3.0	.10	.20			
	7-19	---	---	27-35	1.25-1.40	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.05	.20			
	19-42	---	---	27-35	1.25-1.40	0.2-0.6	0.09-0.11	0.0-2.9	1.0-2.0	.05	.20			
	42-54	---	---	27-35	1.25-1.40	0.2-0.6	0.05-0.07	0.0-2.9	0.5-1.0	.05	.24			
	54-60	---	---	27-35	1.25-1.40	0.2-0.6	0.05-0.07	0.0-2.9	0.0-0.5	.05	.28			
Tycreek	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Kyune	---	---	---	---	---	---	---	---	---	---	---	---	---	---

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Gremo	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Brycan	---	---	---	---	---	---	---	---	---	---	---	--	---	---

Physical Soil Properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Cookcan	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Rock outcrop	---	---	---	---	---	---	---	---	---	---	---	--	---	---
EMF:														
Gremo	0-6	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.13-0.16	2.9-5.9	2.0-4.0	.10	.17	3	6	48
	6-16	0-20	40-73	27-35	1.15-1.30	0.2-0.6	0.16-0.19	2.9-5.9	1.0-3.0	.28	.28			
	16-20	23-52	30-50	18-26	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.15	.28			
	20-24	20-45	15-53	27-35	1.25-1.40	0.2-0.6	0.13-0.16	0.0-2.9	0.5-1.0	.15	.24			
	24-28	---	---	---	---	0.00-0.2	---	---	---	---	---			
Kyune	0-8	23-52	27-50	18-27	1.25-1.40	0.6-2	0.13-0.16	0.0-2.9	2.0-4.0	.24	.24	3	6	48
	8-11	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.16-0.19	2.9-5.9	1.0-3.0	.20	.20			
	11-18	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.15	.28			
	18-27	0-50	40-73	18-27	1.15-1.30	0.6-2	0.14-0.18	0.0-2.9	0.5-1.0	.43	.43			
	27-30	43-85	0-50	0-18	1.35-1.50	2-6	0.10-0.13	0.0-2.9	0.5-1.0	.17	.32			
	30-34	---	---	---	---	0.00-0.2	---	---	---	---	---			
Rock outcrop	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Ustorthent	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Badland	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Pathead	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Podo	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Tycreek	---	---	---	---	---	---	---	---	---	---	---	--	---	---
Talus	---	---	---	---	---	---	---	---	---	---	---	--	---	---

ESB:

Kyune----------	0-6	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	3	4L	86
	6-11	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-3.0	.15	.28			
	11-20	23-52	27-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	1.0-2.0	.15	.28			
	20-31	0-20	40-73	27-35	1.15-1.30	0.2-0.6	0.13-0.16	0.0-2.9	0.5-1.0	.17	.28			
	31-35	---	---	---	---	0.00-0.06	---	---	---	---	---			
Tycreek----------	0-9	23-52	23-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	2.0-4.0	.15	.24	5	6	48
	9-15	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.13-0.16	2.9-5.9	1.0-3.0	.10	.20			
	15-23	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.13-0.16	2.9-5.9	1.0-2.0	.10	20			
	23-34	20-50	15-53	27-35	1.25-1.40	0.2-0.6	0.16-0.19	2.9-5.9	1.0-2.0	20	20			
	34-42	23-52	23-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	0.5-1.0	20	.37			
	42-65	23-52	23-50	18-27	1.25-1.40	0.6-2	0.10-0.13	0.0-2.9	0.5-1.0	20	.37			

Physical Soil Properties

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Permeability (Ksat)	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	In	Pct	Pct	Pct	g/cc	In/hr	In/in	Pct	Pct					
Clyl----------	0-4	43-85	0-50	0-18	1.35-1.50	2-6	0.07-0.08	0.0-2.9	2.0-4.0	.05	.20	3	8	0
	4-11	43-85	0-50	0-18	1.35-1.50	2-6	0.07-0.08	0.0-2.9	1.0-3.0	.10	.24			
	11-21	23-52	27-50	18-27	1.25-1.40	0.6-2	0.07-0.09	0.0-2.9	1.0-2.0	.10	.28			
	21-44	23-52	27-50	18-27	1.25-1.40	0.6-2	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
	44-60	23-52	27-50	18-27	1.25-1.40	0.2-0.6	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
Gremo----------	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Brycan----------	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Gravel pit----------	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Osote----------	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop--------	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Duchesne Area, Utah, Parts of Duchesne, Utah, and Wasatch Counties
Engineering Properties

DRAFT

Print date: 11/17/2008

(Absence of an entry indicates that the data were not estimated)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	#	10	40	200		
	In				Pct	Pct					Pct	
DJE:												
Avintaquin------	0-7	Extremely channery loam	GC, GC-GM, GP-GC, GW-GC	A-1-a, A-2-4, A-1-b	0-30	0-40	10-30	10-25	10-25	5-20	25-30	5-10
	7-17	Extremely channery clay loam	GW-GC, GP-GC, GC	A-2-6, A-2-4	0-30	0-40	10-30	10-25	10-25	5-20	30-35	10-15
	17-29	Extremely channery clay loam	GW-GC, GP-GC, GC-GM, GC	A-2-4, A-1-b, A-1-a	0-30	0-40	10-30	10-25	10-25	5-20	25-30	5-10
	29-33	Bedrock			---	---	---	---	---	---	---	---
Floak----------	0-6	Gravelly loam	CL-ML, CL, SC, SC-SM, GC, GC-GM	A-4	0-10	0-15	60-80	55-75	50-70	35-55	25-30	5-10
	6-15	Silty clay loam	ML	A-7-6, A-6, A-4	0-20	0-20	85-100	80-100	75-100	70-95	30-45	5-15
	15-19	Very cobbly clay loam	CL, SC, GC	A-6, A-2-6	0-25	20-70	45-90	40-85	35-85	30-70	30-35	10-15
	19-34	Very cobbly loam	CL-ML, CL, ML, SC, SC-SM, SM, GC, GC-GM, GM	A-4, A-2-4	0-25	20-70	45-90	40-85	35-85	25-65	20-30	NP-10
	34-38	Bedrock			---	---	---	---	---	---	---	---
Pendant---------	0-1	Extremely flaggy silt loam	ML, GM, GP-GM, GW-GM, SC	A-4, A-2-4, A-1-b, A-1-a	30-80	15-70	20-80	15-75	15-75	10-70	30-35	5-10
	1-4	Very flaggy silt loam	ML, SM, GM	A-4, A-2-4	25-60	10-50	45-90	40-85	35-85	30-75	30-35	5-10
	4-8	Very flaggy silt loam	ML, SM, GM	A-4, A-2-4	25-60	10-50	45-90	40-85	35-85	30-75	30-35	5-10
	8-12	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---		---	---	---	---	---	---	---	---	---
Osote----------	---	---		---	---	---	---	---	---	---	---	---
DLC.												
Osote----------	0-8	Clay loam	CL	A-6	0-10	0-10	85-100	80-100	75-100	60-80	30-35	10-15
	8-15	Silty clay loam	ML	A-7, A-6, A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-45	5-15
	15-31	Silty clay loam	ML	A-7, A-6, A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-45	5-15
	31-49	Silty clay loam	ML	A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-35	5-10
	49-62	Silty clay loam	ML	A-4	0-10	0-10	85-100	80-100	75-100	70-95	30-35	5-10

Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Emmapark	0-2	Channery loam	CL-ML, CL, GC-GM, GC	A-4	0-10	0-10	55-80	55-75	50-70	35-55	25-30	5-10
	2-7	Channery clay loam	CL, GC	A-6	0-10	0-10	55-80	55-75	50-75	40-60	30-35	10-15
	7-19	Very channery clay loam	GC-GM, GC	A-4, A-1, A-2	0-10	0-10	30-55	30-50	30-50	20-40	25-30	5-10
	19-42	Very channery clay loam	GC, GC-GM	A-4, A-1, A-2	0-10	0-10	30-55	30-50	30-50	20-40	25-30	5-10
	42-54	Extremely channery clay loam	GC, GC-GM, GW-GC	A-2, A-1	0-10	0-20	10-30	10-25	10-25	5-20	25-30	5-10
	54-60	Extremely channery clay loam	GW-GC, GC-GM, GC	A-2, A-1	0-10	0-20	10-30	10-25	10-25	5-20	25-30	5-10
Tycreek	---	---	---	---	---	---	---	---	---	---	---	---
Kyune	---	---	---	---	---	---	---	---	---	---	---	---
Gremo	---	---	---	---	---	---	---	---	---	---	---	---
Brycan	---	---	---	---	---	---	---	---	---	---	---	---
Cookcan	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop	---	---	---	---	---	---	---	---	---	---	---	---
EMF:												
Gremo	0-6	Gravelly clay loam	CL, SC, GC	A-6	0-10	0-15	60-80	55-75	50-75	40-60	30-35	10-15
	6-16	Silty clay loam	ML	A-7-6, A-6, A-4	0-20	0-20	85-100	80-100	75-100	70-95	30-45	5-15
	16-20	Channery loam	GC-GM, GC, SC-SM, SC, CL, CL-ML	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	20-24	Parachannery clay loam	GC-GM, GC, SC-SM, SC, CL, CL-ML	A-6, A-4	0-10	0-25	55-80	55-75	50-75	40-60	25-35	5-15
	24-28	Bedrock			---	---	---	---	---	---	---	---
Kyune	0-8	Loam	CL, CL-ML	A-4	0-20	0-20	85-100	80-100	70-95	50-75	25-30	5-10
	8-11	Clay loam	CL	A-6	0-20	0-20	85-100	80-100	75-100	60-80	30-35	10-15
	11-18	Gravelly loam	GC-GM, GC, SC, CL, CL-ML, SC-SM	A-4	0-10	0-15	60-80	55-75	50-70	35-55	25-30	5-10
	18-27	Silt loam	ML	A-4	0-20	0-20	85-100	80-100	75-100	55-90	30-35	5-10
	27-30	Paragravelly very fine sandy loam	GM, GC-GM, SM, SC-SM	A-4, A-2-4	0-10	0-15	60-80	55-75	50-70	30-50	20-25	NP-5
	30-34	Bedrock			---	---	---	---	---	---	---	---

Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Ustorthent------	---	---	---	---	---	---	---	---	---	---	---	---
Badland---------	---	---	---	---	---	---	---	---	---	---	---	---
Pathead---------	---	---	---	---	---	---	---	---	---	---	---	---
Podo------------	---	---	---	---	---	---	---	---	---	---	---	---
Tycreek---------	---	---	---	---	---	---	---	---	---	---	---	---
Talus-----------	---	---	---	---	---	---	---	---	---	---	---	---
BSE:												
Kyune-----------	0-6	Channery loam	GC, CL-ML, CL, SC, SC-SM, GC-GM	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	6-11	Channery loam	GC-GM, GC, SC-SM, CL, CL-ML, SC	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	11-20	Channery loam	GC, CL, CL-ML, SC, SC-SM, GC-GM	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	20-31	Paragravelly silty clay loam	ML	A-7-6, A-6, A-4	0-10	0-25	60-80	55-75	55-75	50-70	30-45	5-15
	31-35	Bedrock			---	---	---	---	---	---	---	---
Tycreek---------	0-9	Channery loam	GC-GM, GC, SC-SM, SC, CL, CL-ML	A-4	0-10	0-25	55-80	55-75	50-70	35-55	25-30	5-10
	9-15	Gravelly clay loam	CL, GC, SC	A-6	0-10	0-15	60-80	55-75	50-75	40-60	30-35	10-15
	15-23	Cobbly clay loam	CL	A-6	0-10	15-45	75-90	70-85	65-85	50-70	30-35	10-15
	23-34	Clay loam	CL	A-6	0-20	0-20	85-100	80-100	75-100	60-80	30-35	10-15
	34-42	Gravelly loam	GC-GM, GC, SC-SM, SC, CL, CL-ML	A-4	0-10	0-15	60-80	55-75	50-70	35-55	25-30	5-10
	42-65	Cobbly loam	CL-ML, CL, SC, SC-SM	A-4	0-10	15-45	75-90	70-85	60-80	45-65	25-30	5-10

Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
Clyl----------	0-4	Very cobbly fine sandy loam	GC-GM, SM, SC-SM, GM	A-4, A-2-4, A-1-b	0-25	20-70	45-90	40-85	30-70	20-45	20-25	NP-5
	4-11	Very stony fine sandy loam	SC-SM, GM, GC-GM, SM	A-4, A-2-4, A-1-b	5-45	0-50	45-90	40-85	30-70	20-45	20-25	NP-5
	11-21	Very cobbly loam	SC-SM, SC, CL, GC-GM, GC, CL-ML	A-4, A-2-4	0-25	20-70	45-90	40-85	35-80	25-65	25-30	5-10
	21-44	Very stony loam	CL-ML, CL, GC, SC-SM, SC, GC-GM	A-4, A-2-4	5-45	0-50	45-90	40-85	35-80	25-65	25-30	5-10
	44-60	Very stony loam	SC, CL, SC-SM, CL-ML, GC, GC-GM	A-4, A-2-4	10-45	0-50	45-90	40-85	35-85	25-64	25-30	5-10
Gremo----------	---	---	---	---	---	---	---	---	---	---	---	---
Brycan----------	---	---	---	---	---	---	---	---	---	---	---	---
Gravel pit------	---	---	---	---	---	---	---	---	---	---	---	---
Osote----------	---	---	---	---	---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---

EX. 13

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I *(To be completed by Federal Agency)*	Date Of Land Evaluation Request 11/14/08
Name Of Project Woolsey Quarry	Federal Agency Involved
Proposed Land Use Limestone Quarry	County And State Utah County, Utah
PART II *(To be completed by NRCS)*	Date Request Received By NRCS 11/14/08

Does the site contain prime, unique, statewide or local important farmland? *(If no, the FPPA does not apply -- do not complete additional parts of this form).*	Yes ☐	No ☑	Acres Irrigated	Average Farm Size
Major Crop(s)	Farmable Land In Govt. Jurisdiction Acres: %		Amount Of Farmland As Defined in FPPA Acres: %	
Name Of Land Evaluation System Used	Name Of Local Site Assessment System		Date Land Evaluation Returned By NRCS	

PART III *(To be completed by Federal Agency)*	Alternative Site Rating Site A	Site B	Site C	Site D
A. Total Acres To Be Converted Directly				
B. Total Acres To Be Converted Indirectly				
C. Total Acres In Site	0.0	0.0	0.0	0.0
PART IV *(To be completed by NRCS)* Land Evaluation Information				
A. Total Acres Prime And Unique Farmland				
B. Total Acres Statewide And Local Important Farmland				
C. Percentage Of Farmland In County Or Local Govt. Unit To Be Converted				
D. Percentage Of Farmland In Govt. Jurisdiction With Same Or Higher Relative Value				
PART V *(To be completed by NRCS)* Land Evaluation Criterion Relative Value Of Farmland To Be Converted *(Scale of 0 to 100 Points)*	0	0	0	0

PART VI *(To be completed by Federal Agency)* Site Assessment Criteria *(These criteria are explained in 7 CFR 658.5(b)*	Maximum Points				
1. Area In Nonurban Use					
2. Perimeter In Nonurban Use					
3. Percent Of Site Being Farmed					
4. Protection Provided By State And Local Government					
5. Distance From Urban Builtup Area					
6. Distance To Urban Support Services					
7. Size Of Present Farm Unit Compared To Average					
8. Creation Of Nonfarmable Farmland					
9. Availability Of Farm Support Services					
10. On-Farm Investments					
11. Effects Of Conversion On Farm Support Services					
12. Compatibility With Existing Agricultural Use					
TOTAL SITE ASSESSMENT POINTS	160	0	0	0	0
PART VII *(To be completed by Federal Agency)*					
Relative Value Of Farmland *(From Part V)*	100	0	0	0	0
Total Site Assessment *(From Part VI above or a local site assessment)*	160	0	0	0	0
TOTAL POINTS *(Total of above 2 lines)*	260	0	0	0	0

Site Selected:	Date Of Selection	Was A Local Site Assessment Used? Yes ☐ No ☐

Reason For Selection:

(See Instructions on reverse side)

Form AD-1006 (10-83)

This form was electronically produced by National Production Services Staff

Ex 13

STEPS IN THE PROCESSING THE FARMLAND AND CONVERSION IMPACT RATING FORM

Step 1 – Federal agencies involved in proposed projects that may convert farmland, as defined in the Farmland Protection Policy Act (FPPA) to nonagricultural uses, will initially complete Parts I and III of the form.

Step 2 – Originator will send copies A, B and C together with maps indicating locations of site(s), to the Natural Resources Conservation Service (NRCS) local field office and retain copy D for their files. (Note: NRCS has a field office in most counties in the U.S. The field office is usually located in the county seat. A list of field office locations are available from the NRCS State Conservationist in each state).

Step 3 – NRCS will, within 45 calendar days after receipt of form, make a determination as to whether the site(s) of the proposed project contains prime, unique, statewide or local important farmland.

Step '4 – In cases where farmland covered by the FPPA will be converted by the proposed project, NRCS field offices will complete Parts II, IV and V of the form.

Step 5 – NRCS will return copy A and B of the form to the Federal agency involved in the project. (Copy C will be retained for NRCS records).

Step 6 – The Federal agency involved in the proposed project will complete Parts VI and VII of the form.

Step 7 – The Federal agency involved in the proposed project will make a determination as to whether the proposed conversion is consistent with the FPPA and the agency's internal policies.

INSTRUCTIONS FOR COMPLETING THE FARMLAND CONVERSION IMPACT RATING FORM

Part I: In completing the "County And State" questions list all the local governments that are responsible for local land controls where site(s) are to be evaluated.

Part III: In completing item B (Total Acres To Be Converted Indirectly), include the following:

1. Acres not being directly converted but that would no longer be capable of being farmed after the conversion, because the conversion would restrict access to them.

2. Acres planned to receive services from an infrastructure project as indicated in the project justification (e.g. highways, utilities) that will cause a direct conversion.

Part VI: Do not complete Part VI if a local site assessment is used.

Assign the maximum points for each site assessment criterion as shown in § 658.5 (b) of CFR. In cases of corridor-type projects such as transportation, powerline and flood control, criteria #5 and #6 will not apply and will, be weighed zero, however, criterion #8 will be weighed a maximum of 25 points, and criterion #11 a maximum of 25 points.

Individual Federal agencies at the national level, may assign relative weights among the 12 site assessment criteria other than those shown in the FPPA rule. In all cases where other weights are assigned relative adjustments must be made to maintain the maximum total weight points at 160.

In rating alternative sites, Federal agencies shall consider each of the criteria and assign points within the limits established in the FPPA rule. Sites most suitable for protection under these criteria will receive the highest total scores, and sites least suitable, the lowest scores.

Part VII: In computing the "Total Site Assessment Points" where a State or local site assessment is used and the total maximum number of points is other than 160, adjust the site assessment points to a base of 160. Example: if the Site Assessment maximum is 200 points, and alternative Site "A" is rated 180 points:

$$\frac{\text{Total points assigned Site A}}{\text{Maximum points possible}} = \frac{180}{200} \times 160 = 144 \text{ points for Site "A."}$$

EX 13

Site Assessment Scoring for the Twelve Factors Used in FPPA

The Site Assessment criteria used in the Farmland Protection Policy Act (FPPA) rule are designed to assess important factors other than the agricultural value of the land when determining which alternative sites should receive the highest level of protection from conversion to non agricultural uses.

Twelve factors are used for Site Assessment and ten factors for corridor-type sites. Each factor is listed in an outline form, without detailed definitions or guidelines to follow in the rating process. The purpose of this document is to expand the definitions of use of each of the twelve Site Assessment factors so that all persons can have a clear understanding as to what each factor is intended to evaluate and how points are assigned for given conditions.

In each of the 12 factors a number rating system is used to determine which sites deserve the most protection from conversion to non-farm uses. The higher the number value given to a proposed site, the more protection it will receive. The maximum scores are 10, 15 and 20 points, depending upon the relative importance of each particular question. If a question significantly relates to why a parcel of land should not be converted, the question has a maximum possible protection value of 20, whereas a question which does not have such a significant impact upon whether a site would be converted, would have fewer maximum points possible, for example 10.

The following guidelines should be used in rating the twelve Site Assessment criteria:

1. **How much land is in non-urban use within a radius of 1.0 mile from where the project is intended?**

More than 90 percent:	15 points
90-20 percent:	14 to 1 points
Less than 20 percent:	0 points

This factor is designed to evaluate the extent to which the area within one mile of the proposed site is non-urban area. For purposes of this rule, "non-urban" should include:

- Agricultural land (crop-fruit trees, nuts, oilseed)
- Range land
- Forest land
- Golf Courses
- Non paved parks and recreational areas
- Mining sites
- Farm Storage
- Lakes, ponds and other water bodies
- Rural roads, and through roads without houses or buildings
- Open space
- Wetlands
- Fish production
- Pasture or hayland

Urban uses include:

- Houses (other than farm houses)
- Apartment buildings
- Commercial buildings
- Industrial buildings
- Paved recreational areas (i.e. tennis courts)
- Streets in areas with 30 structures per 40 acres
- Gas stations

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- Equipment, supply stores
- Off-farm storage
- Processing plants
- Shopping malls
- Utilities/Services
- Medical buildings

In rating this factor, an area one-mile from the outer edge of the proposed site should be outlined on a current photo; the areas that are urban should be outlined. For rural houses and other buildings with unknown sizes, use 1 and 1/3 acres per structure. For roads with houses on only one side, use one half of road for urban and one half for non-urban.

The purpose of this rating process is to insure that the most valuable and viable farmlands are protected from development projects sponsored by the Federal Government. With this goal in mind, factor S1 suggests that the more agricultural lands surrounding the parcel boundary in question, the more protection from development this site should receive. Accordingly, a site with a large quantity of non-urban land surrounding it will receive a greater
number of points for protection from development. Thus, where more than 90 percent of the area around the proposed site (do not include the proposed site in this assessment) is non-urban, assign 15 points. Where 20 percent or less is
non-urban, assign 0 points. Where the area lies between 20 and 90 percent non-urban, assign appropriate points from 14 to 1, as noted below.

Percent Non-Urban Land within 1 mile	**Points**
90 percent or greater	15
85 to 89 percent	14
80 to 84 percent	13
75 to 79 percent	12
70 to 74 percent	11
65 to 69 percent	10
60 to 64 percent	9
55 to 59 percent	8
50 to 54 percent	7
45 to 49 percent	6
40 to 44 percent	5
35 to 39 percent	4
30 to 24 percent	3
25 to 29 percent	2
21 to 24 percent	1
20 percent or less	0

2. How much of the perimeter of the site borders on land in non-urban use?

More than 90 percent:	I0 points
90 to 20 percent:	9 to 1 point(s)
Less than 20 percent:	0 points

This factor is designed to evaluate the extent to which the land adjacent to the proposed site is non-urban use. Where factor #1 evaluates the general location of the proposed site, this factor evaluates the immediate perimeter of the site. The definition of urban and non-urban uses in factor #1 should be used for this factor.

In rating the second factor, measure the perimeter of the site that is in non-urban and urban use. Where more than 90 percent of the perimeter is in non-urban use, score this factor 10 points. Where less than 20 percent, assign 0 points. If a road is next to the perimeter, class the area according to the

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use on the other side of the road for that area. Use 1 and 1/3 acre per structure if not otherwise known. Where 20 to 90 percent of the perimeter is non-urban, assign points as noted below:

Percentage of Perimeter Bordering Land	Points
90 percent or greater	10
82 to 89 percent	9
74 to 81 percent	8
65 to 73 percent	7
58 to 65 percent	6
50 to 57 percent	5
42 to 49 percent	4
34 to 41 percent	3
27 to 33 percent	2
21 to 26 percent	1
20 percent or Less	0

3. **How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last ten years?**

More than 90 percent:	20 points
90 to 20 percent:	19 to 1 point(s)
Less than 20 percent:	0 points

This factor is designed to evaluate the extent to which the proposed conversion site has been used or managed for agricultural purposes in the past 10 years.

Land is being farmed when it is used or managed for food or fiber, to include timber products, fruit, nuts, grapes, grain, forage, oil seed, fish and meat, poultry and dairy products.

Land that has been left to grow up to native vegetation without management or harvest will be considered as abandoned and therefore not farmed. The proposed conversion site should be evaluated and rated according to the percent, of the site farmed.

If more than 90 percent of the site has been farmed 5 of the last 10 years score the site as follows:

Percentage of Site Farmed	Points
90 percent or greater	20
86 to 89 percent	19
82 to 85 percent	18
78 to 81 percent	17
74 to 77 percent	16
70 to 73 percent	15
66 to 69 percent	14
62 to 65 percent	13
58 to 61 percent	12
54 to 57 percent	11
50 to 53 percent	10
46 to 49 percent	9
42 to 45 percent	8
38 to 41 percent	7
35 to 37 percent	6
32 to 34 percent	5
29 to 31 percent	4
26 to 28 percent	3

EX 13

23 to 25 percent	2
20 to 22 percent percent or Less	1
Less than 20 percent	0

4. **Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?**

Site is protected:	20 points
Site is not protected:	0 points

This factor is designed to evaluate the extent to which state and local government and private programs have made efforts to protect this site from conversion.

State and local policies and programs to protect farmland include:

State Policies and Programs to Protect Farmland

1. Tax Relief:

   A. Differential Assessment: Agricultural lands are taxed on their agricultural use value, rather than at market value. As a result, farmers pay fewer taxes on their land, which helps keep them in business, and therefore helps to insure that the farmland will not be converted to nonagricultural uses.

      1. Preferential Assessment for Property Tax: Landowners with parcels of land used for agriculture are given the privilege of differential assessment.

      2. Deferred Taxation for Property Tax: Landowners are deterred from converting their land to nonfarm uses, because if they do so, they must pay back taxes at market value.

      3. Restrictive Agreement for Property Tax: Landowners who want to receive Differential Assessment must agree to keep their land in - eligible use.

   B. Income Tax Credits

   Circuit Breaker Tax Credits: Authorize an eligible owner of farmland to apply some or all of the property taxes on his or her farmland and farm structures as a tax credit against the owner's state income tax.

   C. Estate and Inheritance Tax Benefits

   Farm Use Valuation for Death Tax: Exemption of state tax liability to eligible farm estates.

2. "Right to farm" laws:

   Prohibits local governments from enacting laws which will place restrictions upon normally accepted farming practices, for example, the generation of noise, odor or dust.

3. Agricultural Districting:

   Wherein farmers voluntarily organize districts of agricultural land to be legally recognized geographic areas. These farmers receive benefits, such as protection from annexation, in exchange for keeping land within the district for a given number of years.

4. Land Use Controls: Agricultural Zoning.

EX 13

Types of Agricultural Zoning Ordinances include:

A. Exclusive: In which the agricultural zone is restricted to only farm-related dwellings, with, for example, a minimum of 40 acres per dwelling unit.

B. Non-Exclusive: In which non-farm dwellings are allowed, but the density remains low, such as 20 acres per dwelling unit.

Additional Zoning techniques include:

A. Sliding Scale: This method looks at zoning according to the total size of the parcel owned. For example, the number of dwelling units per a given number of acres may change from county to county according to the existing land acreage to dwelling unit ratio of surrounding parcels of land within the specific area.

B. Point System or Numerical Approach: Approaches land use permits on a case by case basis.

LESA: The LESA system (Land Evaluation-Site Assessment) is used as a tool to help assess options for land use on an evaluation of productivity weighed against commitment to urban development.

C. Conditional Use: Based upon the evaluation on a case by case basis by the Board of Zoning Adjustment. Also may include the method of using special land use permits.

5. Development Rights:

A. Purchase of Development Rights (PDR): Where development rights are purchased by Government action.

Buffer Zoning Districts: Buffer Zoning Districts are an example of land purchased by Government action. This land is included in zoning ordinances in order to preserve and protect agricultural lands from non-farm land uses encroaching upon them.

B. Transfer of Development Rights (TDR): Development rights are transferable for use in other locations designated as receiving areas. TDR is considered a locally based action (not state), because it requires a voluntary decision on the part of the individual landowners.

6. Governor's Executive Order: Policy made by the Governor, stating the importance of agriculture, and the preservation of agricultural lands. The Governor orders the state agencies to avoid the unnecessary conversion of important farmland to nonagricultural uses.

7. Voluntary State Programs:

A. California's Program of Restrictive Agreements and Differential Assessments: The California Land Conservation Act of 1965, commonly known as the Williamson Act, allows cities, counties and individual landowners to form agricultural preserves and enter into contracts for 10 or more years to insure that these parcels of land remain strictly for agricultural use. Since 1972 the Act has extended eligibility to recreational and open space lands such as scenic highway corridors, salt ponds and wildlife preserves. These contractually restricted lands may be taxed differentially for their real value. One hundred-acre districts constitute the minimum land size eligible.

Suggestion: An improved version of the Act would state that if the land is converted after the contract expires, the landowner must pay the difference in the taxes between market value for the land and the agricultural tax value which he or she had been

paying under the Act. This measure would help to insure that farmland would not be converted after the 10 year period ends.

B. Maryland Agricultural Land Preservation Program: Agricultural landowners within agricultural districts have the opportunity to sell their development rights to the Maryland Land Preservation Foundation under the agreement that these landowners will not subdivide or develop their land for an initial period of five years. After five years the landowner may terminate the agreement with one year notice.

As is stated above under the California Williamson Act, the landowner should pay the back taxes on the property if he or she decides to convert the land after the contract expires, in order to discourage such conversions.

C. Wisconsin Income Tax Incentive Program: The Wisconsin Farmland Preservation Program of December 1977 encourages local jurisdictions in Wisconsin to adopt agricultural preservation plans or exclusive agricultural district zoning ordinances in exchange for credit against state income tax and exemption from special utility assessment. Eligible candidates include local governments and landowners with at least 35 acres of land per dwelling unit in agricultural use and gross farm profits of at least $6.000 per year, or $18,000 over three years.

8. Mandatory State Programs:

A. The Environmental Control Act in the state of Vermont was adopted in 1970 by the Vermont State Legislature. The Act established an environmental board with 9 members (appointed by the Governor) to implement a planning process and a permit system to screen most subdivisions and development proposals according to specific criteria stated in the law. The planning process consists of an interim and a final Land Capability and Development Plan, the latter of which acts as a policy plan to control development. The policies are written in order to:

- prevent air and water pollution;
- protect scenic or natural beauty, historic sites and rare and irreplaceable natural areas; and
- consider the impacts of growth and reduction of development on areas of primary agricultural soils.

B. The California State Coastal Commission: In 1976 the Coastal Act was passed to establish a permanent Coastal Commission with permit and planning authority The purpose of the Coastal Commission was and is to protect the sensitive coastal zone environment and its resources, while accommodating the social and economic needs of the state. The Commission has the power to regulate development in the coastal zones by issuing permits on a case by case basis until local agencies can develop their own coastal plans, which must be certified by the Coastal Commission.

C. Hawaii's Program of State Zoning: In 1961, the Hawaii State Legislature established Act 187, the Land Use Law, to protect the farmland and the welfare of the local people of Hawaii by planning to avoid "unnecessary urbanization". The Law made all state lands into four districts: agricultural, conservation, rural and urban. The Governor appointed members to a State Land Use Commission, whose duties were to uphold the Law and form the boundaries of the four districts. In addition to state zoning, the Land Use Law introduced a program of Differential Assessment, wherein agricultural landowners paid taxes on their land for its agricultural use value, rather than its market value.

D. The Oregon Land Use Act of 1973: This act established the Land Conservation and Development Commission (LCDC) to provide statewide planning goals and guidelines.

Ex 13

Under this Act, Oregon cities and counties are each required to draw up a comprehensive plan, consistent with statewide planning goals. Agricultural land preservation is high on the list of state goals to be followed locally.

If the proposed site is subject to or has used one or more of the above farmland protection programs or policies, score the site 20 points. If none of the above policies or programs apply to this site, score 0 points.

5. How close is the site to an urban built-up area?

The site is 2 miles or more from an urban built-up area	15 points
The site is more than 1 mile but less than 2 miles from an urban built-up area	10 points
The site is less than 1 mile from, but is not adjacent to an urban built-up area	5 points
The site is adjacent to an urban built-up area	0 points

This factor is designed to evaluate the extent to which the proposed site is located next to an existing urban area. The urban built-up area must be 2500 population. The measurement from the built-up area should be made from the point at which the density is 30 structures per 40 acres and with no open or non-urban land existing between the major built-up areas and this point. Suburbs adjacent to cities or urban built-up areas should be considered as part of that urban area.

For greater accuracy, use the following chart to determine how much protection the site should receive according to its distance from an urban area. See chart below:

Distance From Perimeter of Site to Urban Area	Points
More than 10,560 feet	15
9,860 to 10,559 feet	14
9,160 to 9,859 feet	13
8,460 to 9,159 feet	12
7,760 to 8,459 feet	11
7,060 to 7,759 feet	10
6,360 to 7,059 feet	9
5,660 to 6,359 feet	8
4,960 to 5,659 feet	7
4,260 to 4,959 feet	6
3,560 to 4,259 feet	5
2,860 to 3,559 feet	4
2,160 to 2,859 feet	3
1,460 to 2,159 feet	2
760 to 1,459 feet	1
Less than 760 feet (adjacent)	0

6. How close is the site to water lines, sewer lines and/or other local facilities and services whose capacities and design would promote nonagricultural use?

None of the services exist nearer than 3 miles from the site	15 points
Some of the services exist more than one but less than 3 miles from the site	10 points
All of the services exist within 1/2 mile of the site	0 points

This question determines how much infrastructure (water, sewer, etc.) is in place which could facilitate nonagricultural development. The fewer facilities in place, the more difficult it is to develop an area. Thus, if a proposed site is further away from these services (more than 3 miles distance away), the site should be awarded the highest number of points (15). As the distance of the parcel of land to services decreases, the number of points awarded declines as well. So, when the site is equal to or further than 1 mile but less than 3 miles away from services, it should be given 10 points. Accordingly, if this distance is 1/2 mile to less than 1 mile, award 5 points; and if the distance from land to services is less than 1/2 mile, award 0 points.

Distance to public facilities should be measured from the perimeter of the parcel in question to the nearest site(s) where necessary facilities are located. If there is more than one distance (i.e. from site to water and from site to sewer), use the average distance (add all distances and then divide by the number of different distances to get the average).

Facilities which could promote nonagricultural use include:

- Water lines
- Sewer lines
- Power lines
- Gas lines
- Circulation (roads)
- Fire and police protection
- Schools

7. **Is the farm unit(s) containing the site (before the project) as large as the average-size farming unit in the county? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage of Farm Units in Operation with $1,000 or more in sales.)**

As large or larger:	10 points
Below average: Deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more is below average	9 to 0 points

This factor is designed to determine how much protection the site should receive, according to its size in relation to the average size of farming units within the county. The larger the parcel of land, the more agricultural use value the land possesses, and vice versa. Thus, if the farm unit is as large or larger than the county average, it receives the maximum number of points (10). The smaller the parcel of land compared to the county average, the fewer number of points given. Please see below:

Parcel Size in Relation to Average County Size	Points
Same size or larger than average (l00 percent)	10
95 percent of average	9
90 percent of average	8
85 percent of average	7
80 percent of average	6
75 percent of average	5
70 percent of average	4
65 percent of average	3
60 percent of average	2
55 percent of average	1
50 percent or below county average	0

Ex 13

State and local Natural Resources Conservation Service offices will have the average farm size information, provided by the latest available Census of Agriculture data

8. **If this site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?**

Acreage equal to more than 25 percent of acres directly converted by the project	10 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project	9 to 1 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project	0 points

This factor tackles the question of how the proposed development will affect the rest of the land on the farm The site which deserves the most protection from conversion will receive the greatest number of points, and vice versa. For example, if the project is small, such as an extension on a house, the rest of the agricultural land would remain farmable, and thus a lower number of points is given to the site. Whereas if a large-scale highway is planned, a greater portion of the land (not including the site) will become non-farmable, since access to the farmland will be blocked; and thus, the site should receive the highest number of points (10) as protection from conversion

Conversion uses of the Site Which Would Make the Rest of the Land Non-Farmable by Interfering with Land Patterns

Conversions which make the rest of the property nonfarmable include any development which blocks accessibility to the rest of the site Examples are highways, railroads, dams or development along the front of a site restricting access to the rest of the property.

The point scoring is as follows:

Amount of Land Not Including the Site Which Will Become Non-Farmable	Points
25 percent or greater	10
23 - 24 percent	9
21 - 22 percent	8
19 - 20 percent	7
17 - 18 percent	6
15 - 16 percent	5
13 - 14 percent	4
11 - 12 percent	3
9 - 11 percent	2
6 - 8 percent	1
5 percent or less	0

9. **Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?**

All required services are available	5 points
Some required services are available	4 to 1 point(s)
No required services are available	0 points

This factor is used to assess whether there are adequate support facilities, activities and industry to keep the farming business in business. The more support facilities available to the agricultural

landowner, the more feasible it is for him or her to stay in production. In addition, agricultural support facilities are compatible with farmland. This fact is important, because some land uses are not compatible; for example, development next to farmland cam be dangerous to the welfare of the agricultural land, as a result of pressure from the neighbors who often do not appreciate the noise, smells and dust intrinsic to farmland. Thus, when all required agricultural support services are available, the maximum number of points (5) are awarded. When some services are available, 4 to 1 point(s) are awarded; and consequently, when no services are available, no points are given. See below:

Percent of Services Available	Points
100 percent	5
75 to 99 percent	4
50 to 74 percent	3
25 to 49 percent	2
1 to 24 percent	1
No services	0

10. Does the site have substantial and well-maintained on farm investments such as barns, other storage buildings, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment	20 points
Moderate amount of non-farm investment	19 to 1 point(s)
No on-farm investments	0 points

This factor assesses the quantity of agricultural facilities in place on the proposed site. If a significant agricultural infrastructure exists, the site should continue to be used for farming, and thus the parcel will receive the highest amount of points towards protection from conversion or development. If there is little on farm investment, the site will receive comparatively less protection. See-below:

Amount of On-farm Investment	Points
As much or more than necessary to maintain production (100 percent)	20
95 to 99 percent	19
90 to 94 percent	18
85 to 89 percent	17
80 to 84 percent	16
75 to 79 percent	15
70 to 74 percent	14
65 to 69 percent	13
60 to 64 percent	12
55 to 59 percent	11
50 to 54 percent	10
45 to 49 percent	9
40 to 44 percent	8
35 to 39 percent	7
30 to 34 percent	6
25 to 29 percent	5
20 to 24 percent	4
15 to 19 percent	3
10 to 14 percent	2
5 to 9 percent	1
0 to 4 percent	0

Ex 13

11. Would the project at this site, by converting farmland to nonagricultural use, reduce the support for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is converted	10 points
Some reduction in demand for support services if the site is converted	9 to 1 point(s)
No significant reduction in demand for support services if the site is converted	0 points

This factor determines whether there are other agriculturally related activities, businesses or jobs dependent upon the working of the pre-converted site in order for the others to remain in production. The more people and farming activities relying upon this land, the more protection it should receive from conversion. Thus, if a substantial reduction in demand for support services were to occur as a result of conversions, the proposed site would receive a high score of 10; some reduction in demand would receive 9 to 1 point(s), and no significant reduction in demand would receive no points.

Specific points are outlined as follows:

Amount of Reduction in Support Services if Site is Converted to Nonagricultural Use	**Points**
Substantial reduction (100 percent)	10
90 to 99 percent	9
80 to 89 percent	8
70 to 79 percent	7
60 to 69 percent	6
50 to 59 percent	5
40 to 49 percent	4
30 to 39 percent	3
20 to 29 percent	2
10 to 19 percent	1
No significant reduction (0 to 9 percent)	0

12. Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of the surrounding farmland to nonagricultural use?

Proposed project is incompatible with existing agricultural use of surrounding farmland	10 points
Proposed project is tolerable of existing agricultural use of surrounding farmland	9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland	0 points

Factor 12 determines whether conversion of the proposed agricultural site will eventually cause the conversion of neighboring farmland as a result of incompatibility of use of the first with the latter. The more incompatible the proposed conversion is with agriculture, the more protection this site receives from conversion. Therefor-, if the proposed conversion is incompatible with agriculture, the site receives 10 points. If the project is tolerable with agriculture, it receives 9 to 1 points; and if the proposed conversion is compatible with agriculture, it receives 0 points.

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points, and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor-type site or design alternative for protection as farmland along with the land evaluation information.

For Water and Waste Programs, corridor analyses are not applicable for distribution or collection networks. Analyses are applicable for transmission or trunk lines where placement of the lines are flexible.

(1) How much land is in nonurban use within a radius of 1.0 mile form where the project is intended?

(2) More than 90 percent	(3) 15 points
(4) 90 to 20 percent	(5) 14 to 1 point(s).
(6) Less than 20 percent	(7) 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?

(3) More than 90 percent	(4) 10 point(s)
(5) 90 to 20 percent	(6) 9 to 1 points
(7) less than 20 percent	(8) 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?

(4) More than 90 percent	(5) 20 points
(6) 90 to 20 percent	(7) 19 to 1 point(s)
(8) Less than 20 percent	(9) 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?

Site is protected	20 points
Site is not protected	0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage of Farm Units in Operation with $1,000 or more in sales.)

As large or larger	10 points
Below average deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average	9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?

Acreage equal to more than 25 percent of acres directly converted by the project	25 points
Acreage equal to between 25 and 5 percent of the acres directly convened by the project	1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project	0 points

Ex 13

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?

All required services are available	5 points
Some required services are available	4 to 1 point(s)
No required services are available	0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?

High amount of on-farm investment	20 points
Moderate amount of on-farm investment	19 to 1 point(s)
No on-farm investment	0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services so as to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?

Substantial reduction in demand for support services if the site is convened	25 points
Some reduction in demand for support services if the site is convened	1 to 24 point(s)
No significant reduction in demand for support services if the site is converted	0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?

Proposed project is incompatible to existing agricultural use of surrounding farmland	10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland	9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland	0 points

EX 13

RANGE PLANTING
SPECIFICATION SHEET (550)

Name: WW Clyde **Date:** November 19, 2008 **Precip:** 14-16

Location: Colten Area **Soil(s):** DLC, DJE **Acres:** 55

Tract: _____ **Field:** _____ **Slope:** 5% **Elevation:** 7300

Planned by: M. Dean Stacy **Erosion Potential:** High

MLRA D34 **Ecological Site:** Mountain Loam (Moutain Big Sagebrush)

Purpose(s): To begin restoration of the plant community
To reduce erosion by wind and/or water

Livestock: _____

Wildlife: Deer & Elk

DWR Consultation: **If Yes, Who with & When:**

Seedbed Preparation:

Chain one way.

Planting Information

Date: Dormant Seeding

Depth: 0-1/8 inch

Spacing: 12 inches

Method: Drill

Equipment: Rangeland Drill

Species	Variety	PLS Rate (lbs/ac)	Bulk Rate (lbs/ac)	Total PLS Seed (lbs)
Wheatgrass, Intermediate		4.62	6.05	254
Wheatgrass, Crest. (Hycrest)		1.79	2.21	98
Wheatgrass, Intermediate		2.62	3.43	144
Fescue, Sheep		0.56	0.88	31
Forage Kochia		0.04	0.07	2
*Total Rate to be Seeded:		9.64	12.64	530

Management During Plant Establishment

Defer grazing for at least two growing seasons or until stand is established.

Operation and Maintenance of Seeding After Establishment

Grazing should be in accordance with Prescribed Grazing (528A) specifications. Weeds, insects, and/or diseases should be controlled through mowing, burning, flash grazing, or pesticides as needed to maintain a healthy stand. Where stands are damaged by drought, insects, or other uncontrollable events, the stand should be replanted, overseeded, or spot planted. Thin stands may only need grazing deferment during the growing season rather than replanting.

Acceptance of Terms

I agree to the installation and maintenance of this practice as outlined. This practice, as installed, meets NRCS standards & specs

Cooperator: **Planner:**

Certification

Success of the practice shall be determined by evaluating growth or occurrence of planted species after sufficient time has passed to monitor the situation and gather reliable data. Evaluation periods will depend on the methods and materials used.

Acres: ____ Planned Species Used? ____ Seedbed Preparation as Prescribed? ____

Seeding Method & Depth as Prescribed? ____ Objectives were met? ____

Certified by:

Ex 13

RANGE PLANTING
SPECIFICATION SHEET (550)

Name: WW Clyde **Date:** November 19, 2008 **Precip:** 14-16

Location: Colten Area **Soil(s):** DLC, DJE **Acres:** 55

Tract: _____ **Field:** _____ **Slope:** 5% **Elevation:** 7300

Planned by: M. Dean Stacy **Erosion Potential:** High

MLRA D34 **Ecological Site:** Mountain Loam (Moutain Big Sagebrush)

Purpose(s): To begin restoration of the plant community
To reduce erosion by wind and/or water

Livestock: _____

Wildlife: Deer & Elk

DWR Consultation: **If Yes, Who with & When:**

Seedbed Preparation:

Chain one way.

Planting Information

Date: Dormant Seeding

Depth: 0-1/8 inch

Spacing: 12 inches

Method: Drill

Equipment: Rangeland Drill

Species	Variety	PLS Rate (lbs/ac)	Bulk Rate (lbs/ac)	Total PLS Seed (lbs)
Wheatgrass, Western		2.81	5.51	155
Wheatgrass, Thickspike		2.25	3.01	124
Ricegrass, Indian		2.06	2.34	113
Penstemon, Firecraker		0.31	0.41	17
*Total Rate to be Seeded:		7.44	11.27	409

Management During Plant Establishment

Defer grazing for at least two growing seasons or until stand is established.

Operation and Maintenance of Seeding After Establishment

Grazing should be in accordance with Prescribed Grazing (528A) specifications. Weeds, insects, and/or diseases should be controlled through mowing, burning, flash grazing, or pesticides as needed to maintain a healthy stand. Where stands are damaged by drought, insects, or other uncontrollable events, the stand should be replanted, overseeded, or spot planted. Thin stands may only need grazing deferment during the growing season rather than replanting.

Acceptance of Terms

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Cooperator: **Planner:**

Certification

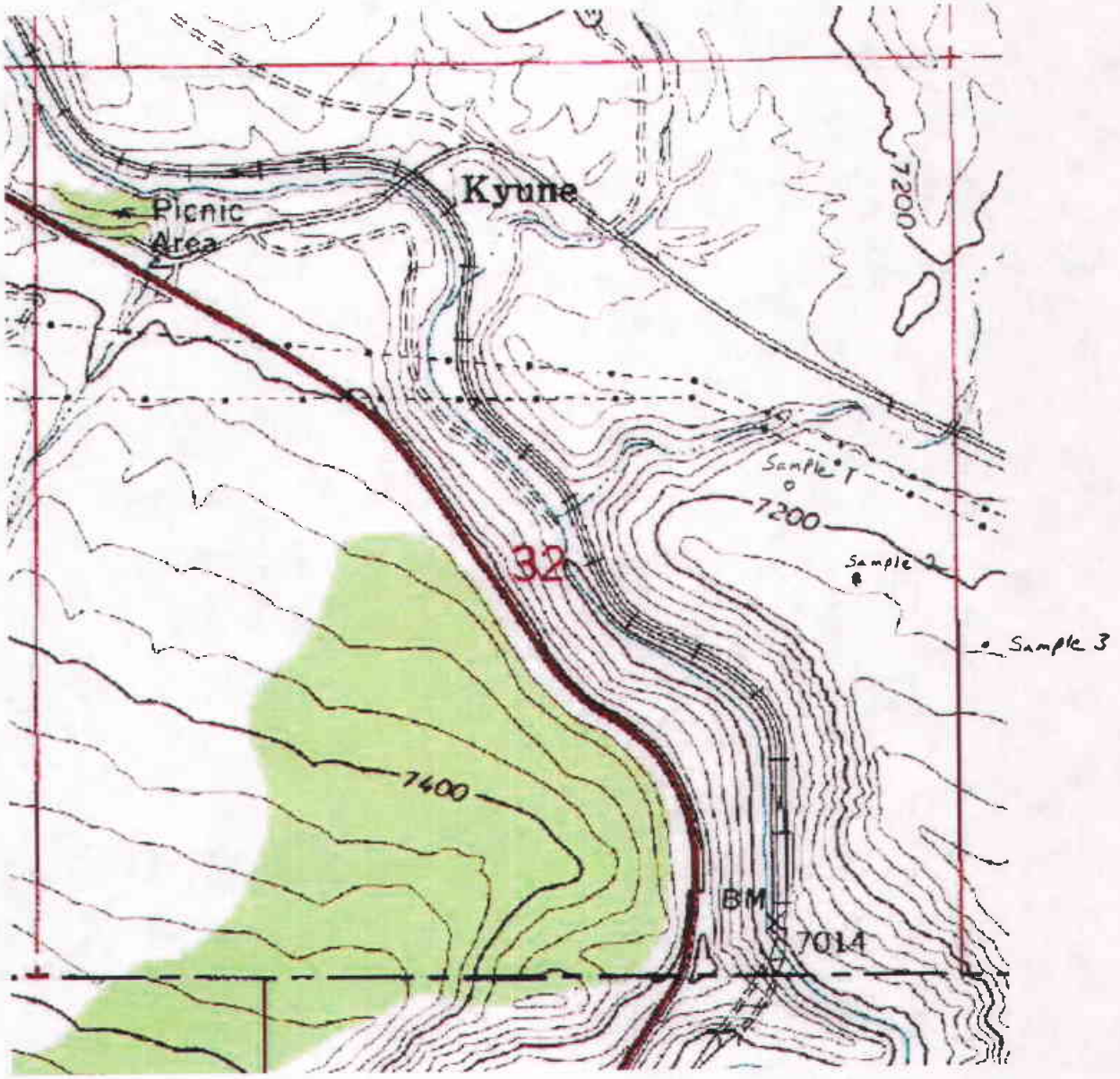
Success of the practice shall be determined by evaluating growth or occurrence of planted species after sufficient time has passed to monitor the situation and gather reliable data. Evaluation periods will depend on the methods and materials used

Acres: ____ Planned Species Used? ____ Seedbed Preparation as Prescribed? ____

Seeding Method & Depth as Prescribed? ____ Objectives were met? ____

Certified by:

Exhibit 14



Emma Park Pit

Soil Test holes

#1 GPS 39-49.278 N, 110-56199 W

#2 GPS 39-49.195 N, 110-56.123 W

#3 GPS 39-49.124 N, 110=55.934 W

SAMPLE #
25'
STANLEY

Sample #2


Soil Sample #3

County Lists of Utah's Federally Listed Threatened(T), Endangered(E), and Candidate(C) Species

Disclaimer: This list was compiled using known species occurrences and species observations from the Utah Natural Heritage Program's Biodiversity Tracking and Conservation System (BIOTICS); other federally listed species likely occur in Utah Counties. This list includes both current and historic records. (Last updated on July 1, 2008).

Beaver County

Common Name	Scientific Name	Status
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Utah Prairie-dog	*Cynomys parvidens*	T

Box Elder County

Common Name	Scientific Name	Status
Fat-whorled Pondsnail	*Stagnicola bonnevillensis*	C
Lahontan Cutthroat Trout	*Oncorhynchus clarkii henshawii*	T
June Sucker	*Chasmistes liorus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Gray Wolf	*Canis lupus*	E Extirpated

Cache County

Common Name	Scientific Name	Status
Maguire Primrose	*Primula maguirei*	T
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	Lynx canadensis	T

Carbon County

Common Name	Scientific Name	Status
Uinta Basin Hookless Cactus	*Sclerocactus glaucus*	T
Clay Phacelia	*Phacelia argillacea*	E
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Black-footed Ferret	*Mustela nigripes*	E Extirpated

Daggett County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Humpback Chub	*Gila cypha*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Black-footed Ferret	*Mustela nigripes*	E Extirpated
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Created by the Utah Division of Wildlife Resources - July 1, 2008

Sevier County - continued

Utah Prairie-dog	*Cynomys parvidens*	T
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Summit County

Common Name	Scientific Name	Status
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Tooele County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Bonytail	*Gila elegans*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C

Uintah County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Shrubby Reed-mustard	*Glaucocarpum suffrutescens*	E
Clay Reed-mustard	*Schoenocrambe argillacea*	T
Pariette Cactus	*Sclerocactus brevispinus*	T
Uinta Basin Hookless Cactus	*Sclerocactus glaucus*	T
White River Beardtongue	*Penstemon scariosus var albifluvis*	C
Humpback Chub	*Gila cypha*	E
Bonytail	*Gila elegans*	E
Colorado Pikeminnow	*Ptychocheilus lucius*	E
Razorback Sucker	*Xyrauchen texanus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	E
Mexican Spotted Owl	*Strix occidentalis lucida*	T
Black-footed Ferret	*Mustela nigripes*	E Experimental
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated
Canada Lynx	*Lynx canadensis*	T

Utah County

Common Name	Scientific Name	Status
Ute Ladies'-tresses	*Spiranthes diluvialis*	T
Deseret Milkvetch	*Astragalus desereticus*	T
Clay Phacelia	*Phacelia argillacea*	E
Utah Valvata Snail	*Valvata utahensis*	E Extirpated
June Sucker	*Chasmistes liorus*	E
Yellow-billed Cuckoo	*Coccyzus americanus*	C
Brown (Grizzly) Bear	*Ursus arctos*	T Extirpated

Utah's State Listed Species by County

Disclaimer: This list was compiled using known species occurrences and species observations from the Utah Natural Heritage Program's Biodiversity Tracking and Conservation System (BIOTICS); other species of special concern likely occur in Utah Counties. This list includes both current and historic records. (Last updated on July 1, 2008).

Beaver County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BIG FREE-TAILED BAT	NYCTINOMOPS MACROTIS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
DARK KANGAROO MOUSE	MICRODIPODOPS MEGACEPHALUS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HAMLIN VALLEY PYRG	PYRGULOPSIS HAMLINENSIS	SPC
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
PYGMY RABBIT	BRACHYLAGUS IDAHOENSIS	SPC
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PRAIRIE-DOG	CYNOMYS PARVIDENS	S-ESA
WESTERN TOAD	BUFO BOREAS	SPC

Box Elder County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
DESERET MOUNTAINSNAIL	OREOHELIX PERIPHERICA	SPC
FAT-WHORLED PONDSNAIL	STAGNICOLA BONNEVILLENSIS	S-ESA
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
GRASSHOPPER SPARROW	AMMODRAMUS SAVANNARUM	SPC
GRAY WOLF	CANIS LUPUS	S-ESA
GREAT PLAINS TOAD	BUFO COGNATUS	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
JUNE SUCKER	CHASMISTES LIORUS	S-ESA

Uintah County (con't)

Common Name	Scientific Name	State Status
BLACK-FOOTED FERRET	MUSTELA NIGRIPES	S-ESA
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONYTAIL	GILA ELEGANS	S-ESA
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO PIKEMINNOW	PTYCHOCHEILUS LUCIUS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
CORNSNAKE	ELAPHE GUTTATA	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FLANNELMOUTH SUCKER	CATOSTOMUS LATIPINNIS	CS
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
HUMPBACK CHUB	GILA CYPHA	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
MOUNTAIN PLOVER	CHARADRIUS MONTANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
RAZORBACK SUCKER	XYRAUCHEN TEXANUS	S-ESA
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHWESTERN WILLOW FLYCATCHER	EMPIDONAX TRAILLII EXTIMUS	S-ESA
SPOTTED BAT	EUDERMA MACULATUM	SPC
SPOTTED OWL	STRIX OCCIDENTALIS	S-ESA
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Utah County

Common Name	Scientific Name	State Status
AMERICAN WHITE PELICAN	PELECANUS ERYTHRORHYNCHOS	SPC
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
BURROWING OWL	ATHENE CUNICULARIA	SPC
CALIFORNIA FLOATER	ANODONTA CALIFORNIENSIS	SPC
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
DESERT VALVATA	VALVATA UTAHENSIS	S-ESA
EUREKA MOUNTAINSNAIL	OREOHELIX EUREKENSIS	SPC
FERRUGINOUS HAWK	BUTEO REGALIS	SPC

Utah County (con't)

Common Name	Scientific Name	State Status
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
JUNE SUCKER	CHASMISTES LIORUS	S-ESA
KIT FOX	VULPES MACROTIS	SPC
LEAST CHUB	IOTICHTHYS PHLEGETHONTIS	CS
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHERN BONNEVILLE SPRINGSNAIL	PYRGULOPSIS TRANSVERSA	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
SPOTTED BAT	EUDERMA MACULATUM	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
UTAH PHYSA	PHYSELLA UTAHENSIS	SPC
WESTERN RED BAT	LASIURUS BLOSSEVILLII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
WHITE-TAILED PRAIRIE-DOG	CYNOMYS LEUCURUS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Wasatch County

Common Name	Scientific Name	State Status
BALD EAGLE	HALIAEETUS LEUCOCEPHALUS	SPC
BLACK SWIFT	CYPSELOIDES NIGER	SPC
BLUEHEAD SUCKER	CATOSTOMUS DISCOBOLUS	CS
BOBOLINK	DOLICHONYX ORYZIVORUS	SPC
BONNEVILLE CUTTHROAT TROUT	ONCORHYNCHUS CLARKII UTAH	CS
BROWN (GRIZZLY) BEAR	URSUS ARCTOS	S-ESA
CANADA LYNX	LYNX CANADENSIS	S-ESA
COLORADO RIVER CUTTHROAT TROUT	ONCORHYNCHUS CLARKII PLEURITICUS	CS
COLUMBIA SPOTTED FROG	RANA LUTEIVENTRIS	CS
FERRUGINOUS HAWK	BUTEO REGALIS	SPC
FRINGED MYOTIS	MYOTIS THYSANODES	SPC
GREATER SAGE-GROUSE	CENTROCERCUS UROPHASIANUS	SPC
LEWIS'S WOODPECKER	MELANERPES LEWIS	SPC
LONG-BILLED CURLEW	NUMENIUS AMERICANUS	SPC
NORTHERN GOSHAWK	ACCIPITER GENTILIS	CS
ROUNDTAIL CHUB	GILA ROBUSTA	CS
SHORT-EARED OWL	ASIO FLAMMEUS	SPC
SMOOTH GREENSNAKE	OPHEODRYS VERNALIS	SPC
SOUTHERN LEATHERSIDE CHUB	LEPIDOMEDA ALICIAE	SPC
THREE-TOED WOODPECKER	PICOIDES TRIDACTYLUS	SPC
TOWNSEND'S BIG-EARED BAT	CORYNORHINUS TOWNSENDII	SPC
WESTERN TOAD	BUFO BOREAS	SPC
YELLOW-BILLED CUCKOO	COCCYZUS AMERICANUS	S-ESA

Jon M. Huntsman, Jr.
Governor

Kevin S. Carter
Director

State of Utah

School and Institutional
TRUST LANDS ADMINISTRATION

675 East 500 South, Suite 500
Salt Lake City, Utah 84102-2818
801-538-5100
801-355-0922 (Fax)
http://www.trustlands.com

October 12, 2005

Nielson Construction Co. and
Castle Rock Manufacturing LLC
P.O. Box 620
Huntington, UT 84528

Dear Lessee:

RE: ML 49955 – Limestone

We are herewith enclosing the above-numbered lease for your files.

If you have any further questions, please contact this office.

Yours very truly,

BECKY PRITCHETT
RESEARCH ANALYST

bp

Enclosure

(6/22/05)

Director's Agenda Date: 9/2/05 **MINERAL LEASE NO.** ML 49955

GRANT: SCH

UTAH STATE MINERAL LEASE FORM
LIMESTONE

THIS MINING LEASE AND AGREEMENT (the "Lease") is entered into and is effective as of October 1, 2005, by and between the STATE OF UTAH, acting by and through the SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION, 675 East 500 South, Suite 500, Salt Lake City, Utah 84102 ("Lessor"), and

NIELSON CONSTRUCTION CO. AND
CASTLE ROCK MANUFACTURING LLC
P.O. BOX 620
HUNTINGTON, UT 84528

having a business address as shown above ("Lessee").

WITNESSETH:

That the State of Utah, as Lessor, in consideration of the rentals, royalties, and other financial consideration paid or required to be paid by Lessee, and the covenants of Lessee set forth below, does hereby GRANT AND LEASE to Lessee the exclusive right and privilege to explore for, drill for, mine, remove, transport, convey, cross-haul, commingle, and sell the leased substances covered by this lease and located within the boundaries of the following-described tract of land (the "Leased Premises") located in UTAH County, State of Utah:

T11S, R9E, SLB&M.
SEC. 32: E½SE¼

Containing 80.00 acres, more or less.

Together with the right and privilege to make use of the surface and subsurface of the Leased Premises for uses reasonably incident to the mining of leased substances by Lessee on the Leased Premises or on other lands under the control of Lessee or mined in connection with operations on the Leased Premises, including, but not limited to, conveying, storing, loading, hauling and otherwise transporting leased substances; excavating; removing, stockpiling, depositing and redepositing of surface materials; developing and utilizing mine portals and adjacent areas for access, staging and other purposes incident to mining; and the subsidence, mitigation, restoration and reclamation of the surface.

This Mining Lease and Agreement is subject to, and Lessee hereby agrees to and accepts, the following covenants, terms, and conditions:

1. LEASED SUBSTANCES.

1.1 LIMESTONE, as Classified and defined in Utah Administrative Code R850-25-100(1)(f) (collectively "leased substances"). This mineral lease grants Lessee the right, subject to the terms and conditions set forth herein, to extract the leased substances. In the event that minerals or materials other than the leased substances are discovered during lease operations, Lessee shall promptly notify the Lessor and shall not further disturb or remove the other minerals or materials without Lessor's written permission. Upon notifying Lessor of such discovery the Lessee shall have preference in making application to the Lessor for a lease or permit covering the unleased minerals or materials that are discovered.

1.2 Ore From Adjacent Lands; Transport Fee, Process Fee. Lessee may use mine workings, portals and ore processing facilities located on the Subject Property to transport or process ore extracted from non-state lands adjacent to or nearby the Subject Property. As a condition of Lessor's consent to such use of the Subject Property, Lessee shall pay Lessor a fee per ton of ore attributable to non-state lands that is removed from portals located on the Subject Property and transported offsite or processed on site. Lessee shall also pay Lessor a fee per ton of any other ore that is mined from non-state lands and is transported to the Subject Property for processing at a facility located upon the Subject Property. Said transport or process fee per ton shall be paid at One-half the leased substances royalty rate as contained in Paragraph 6 of this lease. Lessee shall maintain separate stockpiles of ore removed from the Subject Property and ores attributable to non-state lands, and shall not commingle such ores. For purposes of this paragraph, weight of ores shall be the "dry weight," determined by taking moisture content measurements, and deducting the average moisture from the ore weight, measure at the point of receipt at the mill or other processing facility. For all ore subject to the transport or process fee that is transported for milling or processing during a particular month, Lessee shall pay transport or process fees to Lessor on or before the end of the next succeeding month. Transport or process fees shall be accounted for separately on the monthly royalty settlement sheet required to be submitted by Lessee pursuant to paragraph 6.4, Royalty Payment.

1.3 No Warranty of Title. Lessor claims title to the mineral estate covered by this Lease. Lessor does not warrant title nor represent that no one will dispute the title asserted by Lessor. It is expressly agreed that Lessor shall not be liable to Lessee for any alleged deficiency in title to the mineral estate, nor shall Lessee become entitled to any refund for any rentals, bonuses, or royalties paid under this Lease in the event of title failure.

2. RESERVATIONS TO LESSOR. Subject to the exclusive rights and privileges granted to Lessee under this Lease, and further provided that Lessor shall refrain from taking actions with respect to the Leased Premises that may unreasonably interfere with Lessee's operations, Lessor hereby excepts and reserves from the operation of this Lease the following rights and privileges (to the extent that Lessor has the right to grant such rights and privileges):

2.1 Rights-of-Way and Easements. Lessor reserves the right, following consultation with the Lessee, to establish rights-of-way and easements upon, through or over the Leased Premises, under terms and conditions that will not unreasonably interfere with operations under this Lease, for roads, pipelines, electric transmission lines, transportation and utility corridors, mineral access, and any other purpose deemed reasonably necessary by Lessor.

2.2 Other Mineral Leases. Lessor reserves the right to enter into mineral leases and agreements with third parties covering minerals other than the leased substances, under terms and conditions that will not unreasonably

interfere with operations under this Lease in accordance with Lessor's regulations, if any, governing multiple mineral development.

2.3 Use and Disposal of Surface. To the extent that Lessor owns the surface estate of the Leased Premises and subject to the rights granted to the Lessee pursuant to this Lease, Lessor reserves the right to use, lease, sell, or otherwise dispose of the surface estate or any part thereof, provided that any such actions will not unreasonably interfere with operations under this Lease. Lessor shall notify Lessee of any such sale, lease, or other disposition of the surface estate.

2.4 Rights Not Expressly Granted. Lessor further reserves all rights and privileges of every kind and nature, except as specifically granted in this Lease, provided that any actions under such reservations will not unreasonably interfere with operations under this Lease.

3. TERM OF LEASE; MINIMUM ROYALTIES; READJUSTMENT.

3.1 Primary Term. This Lease is granted for a "primary term" of __FIVE__ years from the date hereinabove first written.

3.2 Extension Beyond Primary Term By Production. Subject to Lessee's compliance with the other provisions of this Lease, this Lease shall remain in effect beyond the primary term so long as leased substances are being produced in paying quantities, as defined herein, from the Leased Premises, or from lands constituting a mining unit as approved by Lessor in its reasonable discretion. For purposes of this lease, production of leased substances in paying quantities shall mean the mining and sale of the leased substances during the lease-year in an amount sufficient to cover all operating expenses accruing to the lessee pursuant to the leasehold for that lease year, including the payment of all taxes and the payment of rentals and royalties accruing to the Lessor.

3.3 Extension Beyond Primary Term By Diligent Development, Financial Investment and Minimum Royalty. In the absence of actual production in paying quantities as set forth in paragraph 3.2, Extension Beyond Primary Term, this Lease shall remain in effect beyond the primary term only if the Lessee is engaged in diligent operations, exploration or development activity, as well as making a substantial financial investment, which in Lessor's sole discretion is calculated to advance development or production of leased substances from the Leased Premises or lands constituting a mining unit as approved by the Director which includes the Leased Premises, and Lessee pays the annual minimum royalty set forth in Paragraph 3.4, Minimum Royalty, in advance, on or before the anniversary date of the date first written hereinabove.

3.4 Minimum Royalty. Commencing with the __FIRST_____ year of this lease Lessee shall pay Lessor an annual minimum royalty, in advance, on or before the Effective Date and each anniversary thereof. The advance annual minimum royalty shall be in the amount of $__20,000.00__. Lessee may credit each lease-year's minimum royalty payment against actual production royalties accruing during that lease year, but such credit shall not carry over beyond the lease year in which the advance royalty was paid. Minimum royalties may not be credited against the annual rentals or bonus bids.

3.5 Expiration; Cessation of Production. This Lease may not be extended pursuant to paragraph 3.3, Diligent Operations, beyond the end of the twentieth year after the Effective Date except by the actual production of

leased substances in commercial quantities from the Leased Premises or from lands constituting an approved mining unit which includes the Leased Premises, or except by suspension of the Lease pursuant to Article 16.3, unless otherwise specifically approved in writing by the Director of the Trust Lands Administration in the interest of the trust beneficiaries. After expiration of the primary term, this Lease will expire of its own terms, without the necessity of any notice or action by Lessor, if: (a) Lessee fails to produce leased substances in accordance with Article 3.2; (b) Lessee ceases to engage in exploration, development, or operations or fails to pay annual advance minimum royalties in accordance with Article 3.3; or, (c) the Director fails to make a written determination that it is in the interest of the trust beneficiaries to extend this lease.

3.6 Readjustment. At the end of the primary term and at the end of each period of FIVE years thereafter ("Readjustment Period"), Lessor may exercise its option to readjust the terms and conditions of this Lease (including, without limitation: rental rates, minimum royalties, royalty rates, valuation methods, and provisions concerning reclamation). Notice of intent to exercise the right to readjust is timely given by Lessor if mailed prior to the end of the Readjustment Period to the last address set forth for Lessee in Lessor's files. Lessor shall have up to one year after exercising its option to readjust to review and communicate in writing the final readjusted terms of the lease. If within thirty (30) days after submission of the readjusted lease terms to the Lessee, the Lessee determines that any or all of the proposed readjusted terms and conditions are unreasonable, then Lessee shall so notify Lessor in writing and the parties, acting reasonably, shall attempt to resolve the objectionable term or condition. If the parties are unable, acting reasonably, to resolve the matter and agree upon the readjusted terms and conditions as submitted by Lessor at the end of the Readjustment Period, Lessee shall forfeit any right to the continued extension of this lease, and the lease shall automatically terminate, provided that nothing herein shall be deemed to preclude Lessee from appealing any readjustment by Lessor pursuant to applicable law.

4. BONUS BID. Lessee agrees to pay Lessor an initial bonus bid in the sum of N/A dollars as partial consideration for Lessor's issuance of this Lease, payable in cash prior to execution of this lease. The initial bonus bid may not be credited against annual rentals, annual minimum royalties or production royalties accruing pursuant to this lease.

5. RENTALS/MINIMUM RENTALS. Lessee agrees to pay Lessor an annual rental of $1.00 for each acre and fractional part thereof within the Leased Premises; provided however, the minimum annual rental required by this lease shall be $500.00 irrespective of acreage. Lessee shall promptly pay annual rentals each year in advance on or before the anniversary date of the Effective Date. The rental payment for a mineral lease year may be credited against production royalties only as they accrue for that lease year. The Lessee may not credit rentals paid for one lease year against production royalties accruing to another lease year. Rental payments may not be credited against minimum royalties or bonus bids accruing to any lease year.

6. ROYALTIES.

6.1 Production Royalties. Lessee shall pay Lessor a production royalty on the basis of N/A % of the Gross Value, f.o.b. the mine, of the leased substances sold under an arm's length transaction, bona fide contract of sale or $ $1.00 per short ton, whichever amount is greater. For purposes of this lease the Gross Value of the leased substances shall mean the actual compensation received by the Lessee, or any affiliated entity, on the basis of U.S. Dollars, including all payments, bonuses and allowances, received plus the value of all services, payments in kind and all other compensation whether monetary or non-monetary, received by the

Lessee from the buyer or from other parties for the sale or disposal of the leased substances.

6.2 Non-Arms Length Transactions. In the event that Lessee uses, sells or otherwise disposes of leased substances without a non-arm's-length contract or bill of sale, Lessee shall promptly notify Lessor of such use, sale or disposal. The Director may then determine and assign the Gross Value to the leased substances for royalty purposes after taking into account spot market prices, the value of similar or like leased substances reported by other trust lands lessees, the value of like mineral commodities as reported by the United States Geological Survey, and other pertinent economic data regarding the fair market value of the leased substances, f.o.b. the mine.

6.3 No Deductions. It is expressly understood and agreed that none of Lessee's mining, production or processing costs, including but not limited to costs for materials, labor, overhead, distribution, transportation f.o.b. mine, loading, crushing, processing, or general and administrative activities, may be deducted in computing Lessor's royalty. All such costs shall be entirely borne by Lessee and are anticipated by the rate of royalty set forth in this Lease.

6.4 Royalty Payment. For all leased substances that are sold or transported from the leased lands during a particular month, Lessee shall pay royalties to Lessor on or before the end of the next succeeding month. Royalty payments shall be accompanied by a verified statement, in a form approved by Lessor, stating the amount of leased substances sold or transported, the gross proceeds accruing to Lessee, and any other information reasonably required by Lessor to verify production and disposition of the leased substances or leased substances products. Delinquent royalties may be subject to late fees and penalties in accordance with Lessor's Rules.

6.5 Suspension, Waiver or Reduction of Rents or Royalties. Lessor, to the extent not prohibited by applicable law, is authorized to waive, suspend, or reduce the rental or minimum royalty, or reduce the royalty applicable with respect to the entire Lease, whenever in Lessor's sole judgment it is necessary to do so in order to promote development, or whenever in the Lessor's sole judgment the Lease cannot be successfully operated under the terms provided herein and continued operations are in the trust land beneficiaries best interest.

7. RECORDKEEPING; INSPECTION; AUDITS.

7.1 Registered Agent; Records. Lessee shall maintain a registered agent within the State of Utah to whom any and all notices may be sent by Lessor and upon whom process may be served. Lessee shall also maintain an office within the State of Utah containing originals or copies of all maps, engineering data, permitting materials, books, records or contracts (whether such documents are in paper or electronic form) generated by Lessee that pertain in any way to leased substances production, output and valuation; mine operations; assays; processing returns; leased substances sales and dispositions; and calculation of royalties from the Leased Premises. Lessee shall maintain such documents for at least seven years after the date of the leased substances production to which the documents pertain.

7.2 Inspection. Lessor's employees and authorized agents at Lessor's sole risk and expense shall have the right to enter the Leased Premises to check scales as to their accuracy, and to go on any part of the Leased Premises to examine, inspect, survey and take measurements for the purposes of verifying production amounts and proper lease operations. Upon reasonable notice to Lessee, Lessor's employees and authorized agents shall further

have the right to audit, examine and copy (at Lessor's expense) all documents described in paragraph 7.1, Registered Agent; Records, whether such documents are located at the mine site or elsewhere. Lessee shall furnish all conveniences necessary for said inspection, survey, or examination; provided, however, that such inspections shall be conducted in a manner that is in conformance with all applicable mine safety regulations and does not unreasonably interfere with Lessee's operations.

7.3 Geologic Information. In the event Lessee conducts core-drilling operations or other geologic evaluation of the Leased Premises, Lessor may inspect core samples, evaluations thereof, and proprietary geologic information concerning the Leased Premises. Upon request by Lessor, Lessee shall timely provide Lessor with a true and correct copy of all such evaluations, geological reports, drilling logs, assays and interpretive maps of the leased substances within the leased lands.

7.4 Confidentiality. Any and all documents and geologic data obtained by Lessor through the exercise of its rights as set forth in paragraphs 7.2, Inspection., and 7.3, Geologic Information., may be declared confidential information by Lessee, in which event Lessor and its authorized agents shall maintain such documents and geologic data as protected records under the Utah Governmental Records Access Management Act or other applicable privacy statute, and shall not disclose the same to any third party without the written consent of Lessee, or as required under the order of a court of competent jurisdiction requiring such disclosure, provided that Lessor's obligations of confidentiality to Lessee shall cease upon termination of this Lease.

8. USE OF SURFACE ESTATE.

8.1 Lessor-Owned Surface. If Lessor owns the surface estate of all or some portion of the Leased Premises, at the time of the execution of this Lease, by issuance of this Lease the Lessee has been granted the right to make use of such lands to the extent reasonably necessary and expedient for the economic operation of the leasehold. Lessee's right to surface use of Lessor-owned surface estate shall include the right to subside the surface. Such surface uses shall be exercised subject to the rights reserved to Lessor as provided in paragraph 2, RESERVATIONS TO LESSOR, and without unreasonable interference with the rights of any prior or subsequent lessee of Lessor.

8.2 Split-Estate Lands. If Lessor does not own the surface estate of any portion of the Leased Premises, Lessee's access to and use of the surface of such lands shall be determined by applicable law governing mineral development on split-estate lands, including without limitation applicable statutes governing access by mineral owners to split estate lands, and reclamation and bonding requirements. Lessee shall indemnify, defend and hold Lessor harmless for all claims, causes of action, damages, costs and expenses (including attorney's fees and costs) arising out of or related to damage caused by Lessee's operations to surface lands or improvements owned by third parties.

9. APPLICABLE LAWS AND REGULATIONS; HAZARDOUS SUBSTANCES

9.1 Trust Lands Statute and Regulations. This Lease is issued pursuant to, and is subject to, the provisions of Title 53C, Utah Code Annotated, 1953, as amended. Further, Lessee and this lease are subject to and shall comply with all current and future rules and regulations adopted by the School and Institutional Trust Lands Administration and its successor agencies.

9.2 Other Applicable Laws and Regulations. Lessee shall comply with all applicable federal, state and local statutes, regulations, and ordinances, including without limitation the Utah Mined Land Reclamation Act, applicable statutes and regulations relating to mine safety and health, and applicable statutes, regulations and ordinances relating to public health, pollution control, management of hazardous substances and environmental protection.

9.3 Hazardous Substances. Lessee [or other occupant pursuant to any agreement authorizing mining] shall not keep on or about the premises any hazardous substances, as defined under 42 U.S.C. § 9601(14) or any other Federal environmental law, any regulated substance contained in or released from any underground storage tank, as defined by the Resource Conservation and Recovery Act, 42 U.S.C. § 6991, *et seq,* or any substances defined and regulated as "hazardous" by applicable State law, (hereinafter, for the purposes of this Lease, collectively referred to as "Hazardous Substances") unless such substances are reasonably necessary in Lessee's mining operations, and the use of such substances or tanks is noted and approved in the Lessee's mining plan, and unless Lessee fully complies with all Federal, State and local laws, regulations, statutes, and ordinances, now in existence or as subsequently enacted or amended, governing Hazardous Substances. Lessee shall immediately notify Lessor, the surface management agency, and any other Federal, State and local agency with jurisdiction over the Leased Premises, of contamination thereon, of (i) all reportable spills or releases of any Hazardous Substance affecting the Leased Premises, (ii) all failures to comply with any applicable Federal, state or local law, regulation or ordinance governing Hazardous Substances, as now enacted or as subsequently enacted or amended, (iii) all inspections of the Leased Premises by, or any correspondence, order, citations, or notifications from any regulatory entity concerning Hazardous Substances affecting the Leased Premises, (iv) all regulatory orders or fines or all response or interim cleanup actions taken by or proposed to be taken by any government entity or private Party concerning the Leased Premises.

9.4 Hazardous Substances Indemnity. Lessee [or other occupant pursuant to any agreement authorizing mining] shall indemnify, defend, and hold harmless Lessor, employees, officers, and agents with respect to any and all damages, costs, liabilities, fees (including reasonable attorneys' fees and costs), penalties (civil and criminal), and cleanup costs arising out of or in any way related to Lessee's use, disposal, transportation, generation, sale or location upon or affecting the Leased Premises of Hazardous Substances, as defined in paragraph 9.3 of this Lease. This indemnity shall extend to the actions of Lessee's employees, agents assigns, sublessees, contractors, subcontractors, licensees and invitees. Lessee shall further indemnify, defend and hold harmless Lessor from any and all damages, costs, liabilities, fees (including reasonable attorneys' fees and costs), penalties (civil and criminal), and cleanup costs arising out of or in any way related to any breach of the provisions of this Lease concerning Hazardous Substances. This indemnity is in addition to, and in no way limits, the general indemnity contained in paragraph 16.1 of this Lease.

9.5 Waste Certification. The Lessee shall provide upon abandonment, transfer of operation, assignment of rights, sealing-off of a mined area, and prior to lease relinquishment, certification to the Lessor that, based upon a complete search of all the operator's records for the Lease, and upon its knowledge of past operations, there have been no reportable quantities of hazardous substances as defined in 40 Code of Federal Regulations §302.4, or used oil as defined in Utah Administrative Code R315-15, discharged (as defined at 33 U.S.C. §1321(a)(2)), deposited or released within the Leased Premises, either on the surface or underground, and that all remedial actions necessary have been taken to protect human health and the environment with respect to such substances. Lessee shall additionally provide to Lessor a complete list of all hazardous substances, hazardous materials, and their respective Chemical Abstracts Service Registry Numbers, used or stored on, or

delivered to, the Leased Premises. Such disclosure will be in addition to any other disclosure required by law or agreement.

10. BONDING.

10.1 Lease Bond May Be Required. At the time this Lease is executed, Lessor may require Lessee to execute and file with the Lessor a good and sufficient bond or other financial guarantee acceptable to Lessor in order to: (a) guarantee Lessee's performance of all covenants and obligations under this Lease, including Lessee's obligation to pay royalties; and (b) ensure compensation for damage, if any, to the surface estate and any surface improvements.

10.2 Reclamation Bonding. The bond required by and filed with the Utah Division of Oil, Gas and Mining ("UDOGM") in connection with the issuance of a mine permit which includes the Leased Premises may be accepted by the Director to satisfy Lessor's bonding requirements with respect to Lessee's reclamation obligations under this Lease; provided, however, upon notice to Lessee, the Lessor may, in its reasonable discretion, determine that the bond filed with UDOGM is insufficient to protect Lessor's interests. In such an event the Director shall enter written findings as to the basis for calculation of the perceived insufficiency and enter an order establishing the amount of additional bonding required. Lessee shall file any required additional bond with Lessor within thirty (30) days after demand by Lessor. Lessor may increase or decrease the amount of any additional bond from time to time in accordance with the same procedure.

11. WATER RIGHTS.

11.1 Water Rights in Name of Lessor. If Lessee files to appropriate water for use in association with this lease or operations upon the Leased Premises, the filing for such water right shall be made by Lessee in the name of Lessor at no cost to Lessor, and such water right shall become an appurtenance to the Leased Premises, subject to Lessee's right to use such water right at no cost during the term of this Lease.

11.2 Option to Purchase. If Lessee purchases or acquires an existing water right for use in association with this lease or operations upon the Leased Premises, Lessor shall have the option to acquire that portion of such water right as was used on the Leased Premises upon expiration or termination of this Lease. The option price for such water right shall be the fair market value of the water right as of the date of expiration or termination of this Lease. Upon expiration or termination of this Lease, Lessee shall notify Lessor in writing of all water rights purchased or acquired by Lessee for leased substances mining operations on the Leased Premises and its estimate of the fair market value of such water right. Lessor shall then have forty-five (45) days to exercise its option to acquire the water by payment to Lessee of the estimated fair market value. If Lessor disagrees with Lessee's estimate of fair market value, Lessor shall notify Lessee of its disagreement within the 45 day option exercise period. The fair market value of the water right shall then be appraised by a single appraiser mutually acceptable to both parties, which appraisal shall be final and not subject to review or appeal. If the parties cannot agree upon the choice of an appraiser, the fair market value of the water right shall be determined by a court of competent jurisdiction. Conveyance of any water right pursuant to this paragraph shall be by quit claim deed.

12. ASSIGNMENT OR SUBLEASE; OVERRIDING ROYALTIES.

12.1 Consent Required. Lessee shall not assign or sublease this Lease in whole or in part, or otherwise assign or convey any rights or privileges granted by this Lease, including, without limitation, creation of overriding royalties or production payments, without the prior written consent of Lessor, which shall not be unreasonably withheld. Lessee agrees that Lessor, in determining whether to consent to any proposed assignment, may reasonably consider the proposed assignee's financial capacity, ability to market and process leased substances, and may refuse to consent to such assignment if, in the Lessor's reasonable opinion, the proposed assignee lacks the necessary financial or technical capacity to mine, market and/or process leased substances in a manner comparable to Lessee. Any assignment, sublease or other conveyance made without prior written consent of Lessor shall have no legal effect unless and until approved in writing by Lessor. Exercise of any right with respect to the Leased Premises in violation of this provision shall constitute a default under this Lease.

12.2 Binding Effect. All of the terms and provisions of this Lease shall be binding upon and shall inure to the benefit of their respective successors, assigns, and sublessees.

12.3 Limitation on Overriding Royalties. Lessor reserves the right to disapprove the creation of an overriding royalty or production payment that would, in Lessor's reasonable discretion, constitute an unreasonable economic burden upon operation of the Lease. In exercising its discretion to disapprove the creation of an overriding royalty, Lessor shall consult with Lessee and any third parties involved and shall prepare findings to evidence the basis of its decision. Any transfer in interest which would create a cumulative overriding royalty burden in excess of 20% shall not be approved.

13. OPERATIONS.

13.1 Permitting. Before Lessee commences exploration, drilling, or mining operations on the Leased Premises, it shall have obtained such permits and posted such bonds as may be required under applicable provisions of the Utah Mined Land Reclamation Act and associated regulations. Lessee shall maintain any required permits in place for the duration of mining operations and reclamation. Upon request, Lessee shall provide Lessor with a copy of all regulatory filings relating to permitting matters.

13.2 Plan of Operations. Prior to the commencement of any exploration, drilling, or mining operations on the Leased Premises, Lessee shall obtain Lessor's approval of a plan of operations for the Leased Premises. Lessor may modify the proposed plan of operations as is needed to insure that there is no waste of economically recoverable mineral reserves contained on the Leased Premises. In this context "waste" shall mean the inefficient utilization of, or the excessive or improper loss of an otherwise economically recoverable mineral resource. Lessor shall notify Lessee in writing of its approval or modifications of the plan of operations. The plan of operations submitted by Lessee shall be deemed approved by Lessor if Lessor has not otherwise notified Lessee within sixty (60) days of filing.

13.3 Plan of Operations - Modification. In the event that material changes are required to the plan of operations during the course of mining, Lessee shall submit a modification of the plan of operations to the Lessor. Routine adjustments to the plan of operations based upon geologic circumstances encountered during day-to-day mining operations do not require the submission of a modification. If the proposed changes

require emergency action by Lessor, then the Lessee shall so notify the Lessor at the time of submission of the modification and the parties shall use their best efforts to meet the Lessee's time schedule regarding implementation of the changes. Non-emergency modifications will be reviewed promptly by Lessor to insure that there is no waste of economically recoverable mineral reserves pursuant to the plan of operations, as modified, and Lessor shall notify lessee in writing of its approval or modification of the proposed modification. Modifications shall be deemed approved by Lessor if Lessor has not otherwise notified Lessee within thirty (30) days of filing.

13.4 Mine Maps. Lessee shall maintain at the mine office clear, accurate, and detailed maps of all actual and planned operations. Such maps shall be certified by an engineer or geologist who is professionally licensed by the State of Utah or by a state having a reciprocal licensing agreement with the State of Utah. Lessee shall provide copies of such maps to Lessor upon request.

13.5 Good Mining Practices. Lessee shall conduct exploration and mining operations on the Leased Premises in accordance with standard industry operating practices, and shall avoid waste of economically recoverable leased substances. Lessee shall comply with all regulations and directives of the Mine Safety and Health Administration or successor agencies for the health and safety of employees and workers. Leased substances shall be mined from this Lease by underground methods only.

13.6 Mining Units. Lessor may approve the inclusion of the Leased Premises in a mining unit with federal, private or other non-state lands upon terms and conditions that it deems necessary to protect the interests of the Lessor, including without limitation segregation of production, accounting for commingled leased substances production, and minimum production requirements or minimum royalties for the Leased Premises.

14. EQUIPMENT; RESTORATION.

14.1 Equipment. Upon termination of this Lease, Lessee shall remove, and shall have the right to remove, all improvements, equipment, stockpiles, and dumps from the Leased Premises within six (6) months; provided, however, that Lessor may, at Lessor's sole risk and expense, and subject to Lessee's compliance with requirements imposed by UDOGM and MSHA, require Lessee to retain in place underground timbering supports, shaft linings, rails, and other installations reasonably necessary for future mining of the Leased Premises. All improvements and equipment remaining on the Leased Premises after six (6) months may be deemed forfeited to Lessor upon written notice of such forfeiture to Lessee. Lessee may abandon underground improvements, equipment of any type, stockpiles and dumps in place if such abandonment is in compliance with applicable law, and further provided that Lessee provides Lessor with financial or other assurances sufficient in Lessor's reasonable discretion to protect Lessor from future environmental liability with respect to such abandonment or any associated hazardous waste spills or releases. Lessee shall identify and locate on the mine map the location of all equipment abandoned on the Lease Premises.

14.2 Restoration and Reclamation. Upon termination of this Lease, Lessee shall reclaim the Leased Premises in accordance with the requirements of applicable law, including mine permits and reclamation plans on file with UDOGM. Lessee shall further abate any hazardous condition on or associated with the Leased Premises. Lessee and representatives of all governmental agencies having jurisdiction shall have the right to re-enter the Leased Premises for reclamation purposes for a reasonable period after termination of the Lease.

15. MULTIPLE MINERAL DEVELOPMENT.

The Utah School and Institutional Trust Lands Administration may designate any lands under its authority as a Multiple Mineral Development Area (MMD). In designated MMDs the Lessor may require in addition to the terms and conditions of this lease such stipulations or restrictions as may be necessary in the determination of the Director to integrate and coordinate the operations of lessees having an interest in the lands in order to conserve natural resource and optimize revenues to the trust-land beneficiaries.

16. DEFAULT

16.1 Notice of Default; Termination. Upon Lessee's violation of or failure to comply with any of the terms, conditions or covenants set forth in this Lease, Lessor shall notify Lessee of such default by registered or certified mail, return receipt requested, at the last address for Lessee set forth in Lessor's files. Lessee shall then have thirty (30) days, or such longer period as may be granted in writing by Lessor, to either cure the default or request a hearing pursuant to the Lessor's administrative adjudication rules. In the event Lessee fails to cure the default or request a hearing within the specified time period, Lessor may cancel this Lease without further notice to or appeal by Lessee.

16.2 Effect of Termination. The termination of this Lease for any reason, whether through expiration, cancellation or relinquishment, shall not limit the rights of the Lessor to recover any royalties and/or damages for which Lessee may be liable, to recover on any bond on file, or to seek injunctive relief to enjoin continuing violations of the Lease terms. No remedy or election under this Lease shall be deemed exclusive, but shall, wherever possible, be cumulative with all other remedies available under this Lease, at law, or in equity. Lessee shall surrender the Leased Premises upon termination; however, the obligations of Lessee with respect to reclamation, indemnification and other continuing covenants imposed by this Lease shall survive the termination. All fees, rentals and monies of any type previously paid by the Lessee to the Lessor are forfeited to the trust.

17. MISCELLANEOUS PROVISIONS.

17.1 Indemnity. Except as limited by paragraph 7.2, Inspection, Lessee shall indemnify and hold Lessor harmless for, from and against each and every claim, demand, liability, loss, cost, damage and expense, including, without limitation, attorneys' fees and court costs, arising in any way out of Lessee's occupation and use of the Leased Premises, including without limitation claims for death, personal injury, property damage, and unpaid wages and benefits. Lessee further agrees to indemnify and hold Lessor harmless for, from and against all claims, demands, liabilities, damages and penalties arising out of any failure of Lessee to comply with any of Lessee's obligations under this Lease, including without limitation reasonable attorneys' fees and court costs. Lessee may be required to obtain insurance in a type and in an amount acceptable to Lessor, naming the Trust Lands Administration, its employees, its Board of trustees and the State of Utah as co-insured parties under the policy.

17.2 Interest. Interest shall accrue and be payable on all obligations arising under this Lease at such current rate as may from time to time be enacted by the Director and recorded in the Director's Minutes of the School and Institutional Trust Lands Administration. Interest shall accrue and be payable, without necessity of demand, from the date each such obligation shall arise.

17.3 Suspension. In the event that Lessor in its reasonable discretion determines that suspension is necessary in the interests of conservation of the leased substances; that prevailing market conditions for the leased substances render continued operation of the subject property uneconomic, or if Lessee has been prevented from performing any of its obligations or responsibilities under this Lease or from conducting mining operations by labor strikes, fires, floods, explosions, riots, acts of terrorism, any unusual mining casualties or conditions, Acts of God, government restrictions or orders, severe weather conditions, or other extraordinary events beyond its control, then the time for performance of this Lease by Lessee shall be suspended during the continuance of such conditions or acts which prevent performance, excepting any payments due and owing to Lessor.

17.4 Consent to Suit; Jurisdiction. This Lease shall be governed by the laws of the State of Utah. Lessor and Lessee agree that all disputes arising out of this Lease shall be litigated only in the Third Judicial District Court for Salt Lake County, Utah, and Lessee consents to the jurisdiction of such court. Lessee shall not bring any action against Lessor without exhaustion of available administrative remedies and compliance with applicable requirements of the Utah Governmental Immunity Act.

17.5 No Waiver. No waiver of the breach of any provision of this Lease shall be construed as a waiver of any preceding or succeeding breach of the same or any other provision of this Lease, nor shall the acceptance of rentals or royalties by Lessor during any period of time in which Lessee is in default be deemed to be a waiver of such default.

17.6 Severability. The invalidity of any provision of this Lease, as determined by a court of competent jurisdiction, shall in no way affect the validity of any other provision hereof.

17.7 Entire Lease. This Lease, together with any attached stipulations, sets forth the entire agreement between Lessor and Lessee with respect to the subject matter of this Lease. No subsequent alteration or amendment to this Lease shall be binding upon Lessor and Lessee unless in writing and signed by each of them.

IN WITNESS WHEREOF, the parties have executed this Lease as of the date hereinabove first written.

APPROVED AS TO FORM:
MARK L. SHURTLEFF
ATTORNEY GENERAL

By: _____

Form Approved: 10-1-05

THE STATE OF UTAH, acting by and through the SCHOOL AND INSTITUTIONAL TRUST LANDS ADMINISTRATION ("LESSOR")

KEVIN S. CARTER, DIRECTOR

By: _____
THOMAS B. FADDIES
ASSISTANT DIRECTOR/MINERALS
School & Institutional Trust Lands Administration - LESSOR

LESSEES:

NIELSON CONSTRUCTION COMPANY

By: _____

Its: President

CASTLE ROCK MANUFACTURING, LLC

By: _____

Its: Pres.

STATE OF UTAH)
:
COUNTY OF SALT LAKE)

On the 12th day of Oct, 20 05, personally appeared before me THOMAS B. FADDIES who duly sworn did say that he is Assistant Director of the School & Institutional Trust Lands Administration of the State of Utah and the signer of the above instrument, who duly acknowledged that he executed the same.

Given under my hand and seal this 12th day of Oct, 20 05.

Becky Pritchett
NOTARY PUBLIC, residing at:

My Commission Expires:

BECKY PRITCHETT
NOTARY PUBLIC • STATE OF UTAH
[illegible] SOUTH SUITE 500
SALT LAKE CITY, UT 84102
COMM. EXP 9-04-06

NOTARY PUBLIC
KIMBERLY J HANSEN
51 No. Main - PO Box 60
Huntington UT 84528
My Commission Expires
March 13, 2007
STATE OF UTAH

STATE OF Utah)
:
COUNTY OF Emery)

On the 3 day of Oct, 20 05, personally appeared before me Wayne Nielson, who being duly sworn did say that he is an officer of Nielson Construction and that said instrument was signed in behalf of said corporation by resolution of its Board of Directors, and said Wayne Nielson acknowledged to me that said corporation executed the same.

Given under my hand and seal this 3 day of Oct, 20 05.

Kimberly Hansen
NOTARY PUBLIC, residing at:

My Commission Expires: 3-13-07

STATE OF Utah)
:
COUNTY OF Emery)

NOTARY PUBLIC
KIMBERLY J HANSEN
51 No. Main - PO Box 60
Huntington UT 84528
My Commission Expires
March 13, 2007
STATE OF UTAH

On the 3 day of Oct, 20 05, personally appeared before me Stephen Powell, who being duly sworn did say that he is an officer of Castle Rock Min and that said instrument was signed in behalf of said corporation by resolution of its Board of Directors, and said Stephen Powell acknowledged to me that said corporation executed the same.

Given under my hand and seal this 3 day of Oct, 20 05.

Kimberly Hansen
NOTARY PUBLIC, residing at:

My Commission Expires: 3-13-07

James T. Jensen
Executive Vice President &
General Counsel

SAVAGE
Savage Services Corporation
6340 South 3000 East #600
Salt Lake City, UT 84121

(801) 944-6600
Fax (801) 944-6554

December 6, 2006

Wayne Nielson
Nielson Construction Company
PO Box 620
Huntington, UT 84528

RE: Surface Use Agreement ("**Agreement**")

Wayne – please find enclosed a copy of the Surface Use Agreement dated May 24, 2005 which I signed with Nielson Construction and Powell Rock. I acknowledge that the "**Annual Payment**" due on May 26, 2006 has been received.

Neither Nielson nor Powell have given notice of election to extend the "**Primary Term**" beyond May 25, 2006, although from my discussions with you and Terry Powell, I assume that you intended to extend for a "**Renewal Term**" beginning May 26, 2006 and am willing to treat the Agreement as having a Renewal Term through May 25, 2007, subject to the following:

1. The "**Annual Payment**" of $2000.00 due on May 26, 2006 together with interest thereon at 10% until paid, needs to be promptly paid. The $2000.00 will be treated as a credit against the "**License Fees**" referred to in Paragraph 3 below;

2. I need to receive copies of weigh scale tickets showing the dates and quantities of Limestone removed from the Jensen Land through November 2006 and thereafter on the 15th day of each month (beginning January 2007) for the preceding month's removals;

3. The "**License Fees**" on Limestone removed between May 26, 2006 and May 25, 2007, as adjusted by the CPI (a copy of which is attached for your reference), will be 25.85¢/ton. The CPI adjustment for the March 2005 to March 2006 period was 3.39%;

4. Please provide me with an insurance certificate as required by Section 4.6 of the Agreement; and

5. Please provide me with copies of the "**Mining Lease**" and the "**Approved Mining Plan**" as provided in Sections 2.2 and 3.1 of the Agreement.

I hope that all is going well for you and your company. I certainly admire you and your company.

Sincerely,

James T. Jensen

encl

cc: Terry Powell (w/o encl.)
Powell Rock
2504 Cheshire Drive
Sandy, UT 84093

NIELSON CONSTRUCTION
GENERAL CONTRACTORS
P.O. Box 620 • 825 North Loop Road • Huntington, Ut. 84528
(435) 687-2494 • Fax: (435) 687-9721

STORM WATER MANAGEMENT PLAN

EMMA PARK GRAVEL PIT

1. The primary goals of the Storm Water Management Plan are to:

- Identify potential sources of pollutants that affect storm water on the site;
- Describe the practices that will be implemented to prevent or control the release of pollutants in storm water;
- Evaluate the plans effectiveness in reducing the pollutant levels in storm water.
- Train employees on effective storm water management.

1.1 Facility Location T11S, R9E, SLB&M. SEC. 32: E1/2SE1/4

Facility Contacts

1.2 Contact Information/Responsible Parties

Instructions:

- List the operator(s), project managers, storm water contact(s), and person or organization that prepared the SWPPP. Indicate respective responsibilities, where appropriate.
- Also, list subcontractors expected to work on-site. Notify subcontractors of storm water requirements applicable to their work.
- See *SWPPP Guide*, Chapter 2.B.

Operator(s):

Nielson Construction:
HANS HANSEN:
P.O. BOX 620
HUNTINGTON UT 84528:
(435)820-0118:
FAX (435)687-9721:

CRUSHER FORMAN:
Repeat as necessary

Project Manager(s) or Site Supervisor(s):
NIELSON CONSTRUCTION:
HANS HANSEN:
P.O. BOX 620
HUNTINGTON UT 84528:
(435)820-0118:
FAX (435)687-9721:
CRUSHER FORMAN:
Repeat as necessary

SWPPP Contact(s):
Nielson Construction:
WAYNE MCCANDLESS
P.O. BOX 620
HUNTINGTON UT 84528:
(435)687-2494:
FAX (435)687-9721 EMAIL waynemc@nielsonconstruction.com
Environmental safety :
Repeat as necessary

2. Pollutant Sources

2.1 Inventory of Materials

Materials used by the facility that have the potential to be present in storm water runoff are listed in the following table. This table includes information regarding material type, chemical and physical description, and the specific regulated storm water pollutants associated with each material.

Trade Name	Chemical/Physical Description	Storm Water Pollutants
Limestone, Marl, chalk	White Solid	Calcium carbonate, turbidity
Lime	White to Slightly Yellowish Solid	Calcium Oxide
Clay, Sand Shale	Solid	Silicon, Suspended solids, Turbidity
Silicates	Fine Powder	Dicalciujm and tricalcium silicates
Waste Fuel (motor oil, spent solvents, printing inks, paint residues, leaning fluids, scrap	Various colored liquids, pastes, and solids, petroleum hydrocarbons	Mineral Oil, petroleum distillates

tires		
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE
Diesel Fuel		Nonane, Ethyltoluenes, Naphthalene

2.1.1 Practices used to minimize contact of materials with rainfall and runoff

- Material piles are kept in a compact shape to minimize surface area.
- Materials are stored on flat areas that do not pond, and on areas that drain into the drainage system whenever possible. No materials are stored within a drainage area.

2.1.2 Existing nonstructural controls that reduce pollutants in storm water runoff

- Regular maintenance of machinery and equipment minimizes spills and leaks.
- Quarterly inspections of fluid containers to check for leaks and deteriorations. Any leaks identified during the inspection will be immediately cleaned using a dry absorbent.
- An emergency spill kit with the supplies necessary to clean a fuel spill is carried in all service vehicles.

2.1.3 Structural controls that reduce pollutants and storm water runoff

- Berms/swales, Rock check dams on low points on berm to control any sediment from any event that should overflow the berms.
- Secondary containment for fuel/oil

2.2 Risk Identification and Summary of Potential Pollutant Sources

2.2.1 Loading and Unloading operations

- Sediment can fall off from loaders while dump trucks are being loaded with soil or aggregate materials. Minor leaks can drain from equipment used at the loading site.

2.2.2 Outdoor Manufacturing/processing activities

- Parking areas: Employees park their vehicles in the parking lot area. Storm water from this area can be potentially contaminated by leaking fluids from the parked vehicles. These contaminants may contain mineral oil, petroleum, distillates, benzene, ethyl benzene, toluene, xylene, and MTBE.
- Fueling areas: fueling activities are performed at the fuel storage areas. Storm water from these areas can be potentially contaminated by fluids leaking from the trucks during refueling activities and spills and leaks at the fueling station. These

contaminants may contain mineral oil, petroleum distillates, benzene, ethyl benzene, toluene, xylene, and MTBE>

- Sand and gravel truck loading areas: Trucks load sand and gravel in the sand and gravel truck loading area. Storm water from this area can be potentially contaminated by fluids leaking on to the gravel surface from the trucks and by sand and gravel spills. These contaminants may contain mineral oil, benzene, toluene, xylene, MTBE, silicon, dissolved solids, suspended solids, calcium sulfate, tricalcium aluminates, and tetra calcium aluminoferrite.

2.2.3 Dust/particle generating activities

- Dust is generated as materials are loaded/unloaded, moved from one stockpile to another, and transferred by conveyer belt. Dust is also generated by vehicles traveling on the unpaved roads between facility operations. All roads and materials are sprayed to control fugitive dust and all activities occur within the perimeter of the facility, so the sediments that may contaminate storm water runoff will remain onsite.

2.2.4 On-site waste disposal practices

- Sources of waste include office waste, employee lunch waste, small lubricant cans and buckets, cloths used for cleaning, etc... Any of these waste sources could become scattered across the site due to wind, inadequate disposal containers or sloppy employee housekeeping. Trash cans are provided and emptied on a regular basis to ensure no storm water is adversely affected.

3.0 MEASURES AND CONTROLS

This section discusses the storm water management controls implemented at the facility and describes the management practices selected to address the areas of concern identified in Section 2 of this SWMP.

3.1 Good Housekeeping

Good housekeeping Best Management Practices (BMPs) refers to ongoing or regular practices that ensure that areas of the facility with a potential to contribute pollutants to storm water are kept clean and orderly. The following comprise some of the good housekeeping practices that are routinely followed:

- Litter is controlled through employee awareness, trash receptacle placement, and frequent cleanup, among other controls. New employees are instructed in litter control as part of their initial Nielson Construction training. Wind blown litter and other debris is periodically cleaned up from the entire facility.
- Fueling and servicing takes place in designated areas away from surface water collection areas.
- To reduce the chance of spills during fueling, the service technician remains at the fueling point while the equipment is being filled. All valves are opened immediately prior to, and closed immediately after, fueling.

- Tanks and drums are refilled and/or re-supplied between once a day and once a week by a contractor. All tanks and drums are secondarily contained.
- A spill kit is maintained on all service vehicles.

3.2 Preventive Maintenance

- Vehicles, equipment, and machinery are kept in good working order so that their likelihood of discharging fluids that could contact storm water is minimized.
- Water systems used in dust control are regularly maintained to avoid small, chronic leaks or large-volume releases
- Earthen slopes and retention berms/swales are maintained in order to reduce erosion and storm water transport of their materials as well as continue to serve their intended function.
- The inspection procedures discussed in Section 3.4 ensure that items requiring maintenance are identified. If maintenance is needed, items are repaired as soon as practicable during the next inspection, special attention is paid to those items in order to verify that maintenance activities were adequately completed.

3.3 Other Controls

All wastes created during operations are removed from the area and disposed of appropriately. No trash or other pollutants will be buried on site. All applicable Federal, State and/or local waste disposal regulations will be complied with.

Any gasoline, diesel fuels, lubricants, and other potential pollutants stored on the property are stored in double-walled tanks.

3.4 Inspections

Once a quarter, material handling and storage areas, drum storage areas, conveyors, hoppers, and stockpile areas are inspected to assure that there are no leaks, fuel or oil deposition areas, or other signs that hydrocarbons are uncontrolled. Storm water control structures and equipment such as berms, sediment control and collection systems, and containment structures are also inspected to ensure continued proper operation. Inspections are conducted quarterly during each of the following periods: January to March, April to June, July to September, and October to December, providing equipment is on site during those periods.

A blank inspection report form is located in Appendix C and will be completed and signed by the inspector at the time of each inspection. If the inspection report describes deficiencies in pollution control equipment, structures, or procedures, the deficiencies will be corrected as soon as possible following the inspection, and prior to the next anticipated significant storm event. A description of all actions and shall be documented and retained as part of this plan. Nielson Construction will retain copies of completed inspection reports (Appendix D) for a minimum of three years from the date of inspection.

3.5. Employee Training

An employee training program will be developed and implemented to educate employees about requirements contained in these plans and other plans relating to storm water and spill prevention. This education program will include the following:

- Background on the components and goals of storm water pollution prevention
- Hands-on training in spill prevention and response
- BMPs to be used at the facility
- Education on storm water pollution prevention
- Question and answer session
- Other topics considered pertinent during each session

All new employees will be trained within one week of their start date. Additionally, employees will be required to participate in an annual refresher training course. An employee sign-in sheet for the refresher course can be found in appendix e of this document. The training program will be reviewed annually to determine its effectiveness and to make any necessary changes to the program.

Training records shall be retained for a minimum of three years.

3.6 Record Keeping and Internal Reporting Procedures

Records described in this plan must be retained on site for a minimum of 3 years, and shall be made available to the state or federal compliance inspection officer upon request. Additionally, employee training records shall also be maintained.

4.0 Signatory

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature (Corporate Officer)

Environmental Manager
Title

11/17/09
Date

Reclamation Surety Cost

1. Clean-up and removal of structures				
Equipment	hours	rate	total	
2 loaders 6 hours each	12	$150.00	$1,800.00	
Transport Truck	8	$105.00	$840.00	
Total				$2,640.00
2. Backfill Grading Contouring				
Scraper	6	$130.00	$780.00	
Dozer	18	$160.00	$2,880.00	
Loader	8	$150.00	$1,200.00	
Grader	10	$140.00	$1,400.00	
Total				$6,260.00
3. Soil Materil Redistribution And stablize				
Scrapers	10	$130.00	$1,300.00	
DOZER	18	$160.00	$2,880.00	
TOTAL				$4,180.00
4. Revegitation				
Seeding $300.00 acre	13.5	$300.00	$4,050.00	
Total				$4,050.00
5. Safety Gates, Berms, Barriers, Signs, etc.				$0.00
6. Demolition				$0.00
7. Regrade waste dumps				$0.00
8. Regrading stockpiles, pads, Compacted Areas				
Dozer	1.5	$160.00	$240.00	
Total				$240.00
9. ripping pit floors and access roads				
Dozer	2	$160.00	$320.00	
Total				$320.00
10. Drainage Reconstruction				
Grader	2	$140.00	$280.00	
Total				$280.00
11. Mulching Fertilizing				
Composted Manure est. 1/3 of areas	4.5	$2,200.00	$9,900.00	
Total				$9,900.00
12. General Site Cleanup				
Labor & Pickup	3	$40.00	$120.00	
Total				$120.00
13. Removal of Hazardous Materials				$0.00

Reclamation Surety Cost

14. Mobilization				
Transport Truck	8	$130.00	$1,040.00	$1,040.00
15. Supervision	4	$70.00	$280.00	$280.00
Total				$29,310.00